

Vital Statistics of Towns in Bengal with a population of 20,000 and over during the month of October 1895.

[illegible]

H. J. DYSON, Surgeon-Captain, F.R.C.S.,
Sanitary Commissioner for Bengal.

OFFICE OF SANITARY COMMISSIONER FOR BENGAL,
The 7th December 1895.

IRRIGATION DEPARTMENT, BENGAL.

Abstract statement showing Tollage on Canals in Bengal classed as Major Works for the month of October 1895, as compared with that of the corresponding month of the previous year.

CANALS.	TOLLAGE, 1895-96.		TOLLAGE, 1894-95.	
	During the month.	To end of the month.	During the month.	To end of the month.
1	2	3	4	5
<i>Orissa Circle.</i>	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Taldanda Canal System	678 8 6	10,149 3 9	451 5 5	9,017 8 2
Kendrapara ditto	8,261 7 2	50,433 10 2	6,238 10 7	31,756 2 5
High Level Canal, Range I	1,341 14 0	6,598 11 6	989 1 0	4,375 15 6
Ditto, " II	318 15 8	1,467 9 7	207 14 0	1,057 7 5
Ditto, " III	209 7 9	921 0 9	161 9 6	674 13 9
Jajpur Canal	27 9 0	217 5 3	41 11 6	233 8 9
Total Orissa Circle ...	10,835 13 8	69,787 9 0	8,090 4 9	47,115 8 0
<i>South-Western Circle.</i>				
Midnapore Canal	11,196 15 3	73,114 13 6	10,563 8 0	70,563 12 3
Hijili Tidal Canal	5,170 0 6	48,277 7 0	3,859 13 9	41,073 10 0
Total South-Western Circle ...	16,366 15 9	1,21,392 4 6	14,423 0 9	1,11,637 6 3
<i>Sone Circle.</i>				
Patna Canal System	1,986 0 0	18,012 6 4	1,183 13 3	11,611 10 8
Arrah ditto	1,081 12 6	10,849 9 3	1,166 14 6	12,691 0 9
Buxar ditto	758 6 6	6,726 0 6	563 8 0	4,754 15 3
Total Sone Circle ...	3,076 3 0	30,588 0 1	2,916 3 9	29,057 10 6
GRAND TOTAL ...	30,279 0 5	2,21,767 13 7	25,429 9 3	1,87,810 3 9

Government Transport Services.

CANAL.	TOLLAGE, 1895-96.						TOLLAGE, 1894-95.					
	During the month.			To end of the month.			During the month.			To end of the month.		
	Passengers.	Cargo.	Total receipts.	Passengers.	Cargo.	Total receipts.	Passengers.	Cargo.	Total receipts.	Passengers.	Cargo.	Total receipts.
1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Orissa Circle.</i>	No.	Mds.	Rs. A. P.	No.	Mds.	Rs. A. P.	No.	Mds.	Rs. A. P.	No.	Mds.	Rs. A. P.
High Level ...	2,815	...	2,523 11 3	13,564	2,307	12,359 1 0	2,293	1,176	2,151 10 9	8,738	9,218	2,670 10 3
Total Orissa Circle ...	2,815	...	2,523 11 3	13,564	2,307	12,359 1 0	2,293	1,176	2,151 10 9	8,738	9,218	2,670 10 3

Assessed Tollage Receipts.

CANALS.	EARNINGS, 1895-96.		EARNINGS, 1894-95.	
	During the month.	To end of the month.	During the month.	To end of the month.
1	2	3	4	5
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Orissa Canals	13,359 8 11	82,043 10 0	10,241 15 6	55,785 13 2
Midnapore Canal	11,196 15 3	73,114 13 6	10,563 8 0	70,563 12 3
Hijili Tidal Canal	5,170 0 6	48,277 7 0	3,859 13 9	41,073 10 0
Sone Canals	3,076 3 0	30,588 0 1	2,916 3 9	29,057 10 6
Total	32,802 11 8	2,34,023 14 7	27,581 4 0	1,96,480 13 11

CALCUTTA,

The 9th December 1895.

O. C. LEE,

Under-Secy. to the Govt. of Bengal

IRRIGATION DEPARTMENT, BENGAL.

Abstract statement showing Tollage on Canals in Bengal classed as Minor Works and Navigation for the month of October 1895, as compared with that of the corresponding month of the previous year.

CANALS.	TOLLAGE, 1895-96.		TOLLAGE, 1894-95.	
	During the month.	To end of the month.	During the month.	To end of the month.
1	2	3	4	5
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Calcutta and Eastern Canals ...	32,760 14 9	1,56,627 4 9	25,829 11 0	1,34,596 0 3
Tolly's Nala ...	7,008 0 0	49,212 15 9	6,178 0 9	42,888 3 0
Total ...	39,768 14 9	2,05,840 4 6	32,007 11 9	1,77,484 3 3
Orissa Coast Canal ...	6,464 6 3	47,546 10 3	5,237 7 0	33,817 3 3
Nadia Rivers ..	11,902 6 6	92,858 11 0	14,344 15 0	*55,597 13 0
GRAND TOTAL ...	58,135 11 6	3,46,245 9 9	51,590 1 9	3,06,899 3 6

* This includes Rs. 517-12-6, less shown in Jangipur statement for August 1894, and also Rs. 752-6-6 adjusted in September's accounts.

CALCUTTA,
The 9th December 1895.

O. C. LEES,
Under-Secy. to the Govt. of Bengal.

CIRCULAR AND EASTERN CANALS.

Approximate return of traffic for the week ending Saturday, the 7th December 1895, as compared with the corresponding week of the previous year.

NATURE OF CARGO.	WEEK ENDING SATURDAY, THE 7TH DECEMBER 1895.			WEEK ENDING SATURDAY, THE 5TH DECEMBER 1894.		
	Number of boats.	Weight of cargo.	Tollage.	Number of boats.	Weight of cargo.	Tollage.
	No.	Mds.	Rs.	No.	Mds.	Rs.
Rice and paddy ...	411	46,100	696	678	55,212	826
Jute ...	478	2,01,850	3,531	294	1,15,226	2,103
Firewood ...	121	73,375	1,104	85	55,525	847
Other articles ...	1,023	2,16,200	3,880	710	1,94,475	2,857
Total ...	3,033	5,37,625	8,711	1,762	4,20,437	6,646

EAST INDIAN RAILWAY.

Statement of Goods Traffic in Staples carried during the four weeks ending 26th October 1895, as compared with the same period of 1894.

STAPLES.	1894.		1895.		INCREASE.		DECREASE.	
	Weight.	Freight.	Weight.	Freight.	Weight.	Freight.	Weight.	Freight.
	Mds.	Rs.	Mds.	Rs.	Mds.	Rs.	Mds.	Rs.
Coal & Coke carried for the public and foreign railways	41,18,466	6,12,874	50,21,543	7,01,881	8,03,077	1,40,007	...	...
Cotton, raw	21,846	22,336	75,007	33,376	53,161	14,330	...	...
Cotton, manufactured—								
1.—Twist & Yarn, European	8,398	8,809	5,008	4,480	...	...	1,386	2,448
2.—Ditto Indian	24,348	18,857	22,023	16,507	2,325	1,740	...	...
3.—Piece-goods—European	1,84,034	1,99,804	1,49,000	1,60,809	...	...	4,034	32,333
4.—Ditto Indian	85,706	24,179	41,442	31,383	44,264	10,104	...	...
Drugs and chemicals—								
1.—Intoxicating other than opium	408	186	3,578	1,671	3,170	1,356	...	...
2.—Non-intoxicating	10,122	8,840	6,356	6,117	...	...	3,766	2,830
Dyes and tans—								
1.—Indigo	3,023	6,385	27,819	47,838	13,896	40,878	...	...
2.—Myrabolans	3,386	1,886	3,124	1,145	...	...	1,087	143
3.—Gutch	1,631	678	2,498	1,181	1,087	806	...	...
4.—Turmeric	11,885	12,074	6,834	4,141	...	...	5,051	8,535
5.—Aniline dyes	208	179	75	77	...	...	130	192
6.—Others	309	217	1,199	1,102	890	875	...	...
Grain & Pulses—								
1.—Wheat	4,75,774	1,80,729	5,83,431	1,15,343	...	...	87,655	65,295
2.—Rice in the husk	1,08,412	11,394	23,982	3,480	...	...	84,430	7,734
3.—Rice not in the husk	4,33,206	58,089	2,41,073	45,557	...	...	18,133	12,632
4.—Jawar and bajra	18,207	21,081	9,886	2,194	...	...	43,301	16,877
5.—Gram & pulses	5,22,031	2,12,707	8,84,381	1,01,366	...	...	1,80,650	1,08,571
6.—Others	1,65,008	63,373	2,70,046	68,804	1,04,538	20,429	...	...
Hides and skins—								
1.—Hides of cattle	27,579	13,860	40,204	29,034	12,625	15,076	...	...
2.—Skins of sheep, &c.	12,041	9,069	13,981	6,348	...	...	1,890	...
Horns	801	617	1,311	638	510	331	...	...
Jute—								
1.—Raw	79,441	17,423	2,04,500	42,363	1,25,059	24,930	...	...
2.—Gunnybags and cloth	60,034	40,235	64,804	36,320	...	...	5,090	2,935
Lac—								
1.—Stick	28,712	8,883	24,539	8,733	...	...	...	118
2.—Shell	10,377	15,031	22,107	16,067	11,730	2,286	...	...
Leather, Manufactured	4,031	8,073	6,911	7,082	...	...	720	1,491
Liquors—								
1.—Beer	20,003	7,533	20,504	7,585	...	...	180	...
2.—Spirits	2,095	2,008	2,945	2,060	747	...	...	8
3.—Wines	2,228	4,120	3,015	5,587	787	1,417	...	...
Metals—								
1.—Copper, unwrought	2,016	3,339	1,176	691	...	...	1,480	3,049
2.—Brass, unwrought	2,007	1,792	3,198	1,468	941	...	...	230
3.—Copper, wrought	476	780	959	659	483	...	...	...
4.—Brass, wrought	15,160	7,406	19,751	8,217	...	...	1,434	...
5.—Iron	1,07,181	20,031	1,33,228	27,822	26,047	7,590	...	...
6.—Others	8,889	4,169	9,048	5,063	1,159	...	...	190
7.—Zinc & spelter	4,387	8,480	1,201	1,188	...	...	2,266	2,246
Oil—								
1.—Kerosine	89,158	29,711	1,29,299	47,547	40,141	7,836	...	...
2.—Castor	4,150	1,308	5,701	1,470	1,551	48	...	...
3.—Coconut	2,382	1,079	8,729	1,200	6,347	101	...	...
4.—Others	10,100	5,387	13,180	4,610	3,080	3,183	...	...
Oil-seeds—								
1.—Unseed	2,10,678	61,022	1,40,074	20,000	...	...	40,154	29,018
2.—Rape and mustard	1,91,340	29,808	58,475	21,889	...	...	40,773	17,719
3.—Flu or jingli	8,154	1,173	3,781	906	...	...	1,289	265
4.—Poppy	6,356	1,304	3,388	630	...	...	2,974	445
5.—Karlhvate	67	55	20	9	...	...	41	44
6.—Castor	45,024	7,183	48,144	11,075	...	...	2,380	...
7.—Others	20,806	9,047	4,017	552	...	...	27,161	2,405
Opium	343	518	792	620	407	109	...	...
Paper and pasteboard	11,238	6,707	17,707	8,032	6,469	2,320	...	...
Provisions—								
1.—Ghee	54,640	51,603	26,731	24,345	...	...	7,889	7,157
2.—Dried fruits and nuts	16,697	9,306	16,017	8,604	...	...	...	742
3.—Others	46,897	10,872	61,247	21,387	14,350	5,115	...	...
4.—Potatoes	81,464	20,256	1,24,600	31,326	43,136	37,306	...	7,903
Railway plant & rolling stock carried for the public & foreign railways—								
1.—Locomotive engines & tenders & parts thereof	803	1,563	...	...	...	...	803	1,563
2.—Garrages & trucks & parts thereof	116	31	37,796	6,405	37,680	6,374	...	...
3.—Steel rails & fish plates	...	...	...	...	...	...	...	...
4.—Sleepers & keys of steel & cast iron	...	...	...	...	...	...	...	...
5.—Other sorts	5,56,901	1,07,999	4,98,093	1,11,318	...	...	60,708	...
Salt	...	...	...	...	...	...	...	...
Saltpetre, &c.—								
1.—Saltpetre	20,944	16,378	27,703	19,959	6,759	2,681	1,694	...
2.—Other saline substances	20,403	6,336	...	...	...	...	...	...
Silk, raw—								
1.—Foreign	...	...	...	...	...	...	...	...
2.—Indian	1,036	...	1,355	377	...	...	...	...
Silk piece-goods—								
1.—Foreign	...	14	91	47	19	33	...	...
2.—Indian	860	449	621	613	62	143	...	...

STAPLES.	1894.		1895.		INCREASE.		DECREASE.	
	Weight.	Freight.	Weight.	Freight.	Weight.	Freight.	Weight.	Freight.
	Mds.	Rs.	Mds.	Rs.	Mds.	Rs.	Mds.	Rs.
Spices—								
1.—Betelnuts	10,344	19,368	14,344	10,368	...	...	5,000	8,370
2.—Pepper	3,324	3,189	2,792	2,809	632	680	...	...
3.—Ginger	2,648	1,357	3,021	1,033	353	...	...	918
4.—Chillies	8,341	3,177	7,490	2,625	851	...	751	523
5.—Cardamoms	769	1,120	691	868	78	...	78	331
6.—Others	1,080	583	797	419	283	...	283	168
Stone and lime	2,54,832	45,151	2,20,763	65,604	34,069	10,463	...	...
Sugar—								
1.—Refined	12,858	6,184	21,340	10,601	8,482	4,417	...	...
2.—Unrefined	1,46,983	27,631	1,40,654	20,534	...	2,503	9,433	...
Tee—								
1.—Foreign	...	...	...	...	...	...	3	1
2.—Indian	5,235	2,431	2,413	8,123	...	...	2,512	302
Timber	26,752	6,422	64,500	13,406	12,654	6,057	...	...
Tobacco	41,191	16,829	21,829	12,864	...	...	9,211	2,028
Wool, Raw	739	805	1,234	903	495	68	...	...
Wool manufactured—								
1.—Piece-goods, European	752	1,534	1,029	1,791	277	267	...	...
2.—Indian	4,709	6,664	5,652	6,729	943	665	...	...
3.—Shawls	...	...	...	...	...	...	...	...
All other articles of merchandise—								
1.—Firewood	17,425	1,234	12,583	699	...	...	4,842	535
2.—Indigo seed	9,080	2,612	18,751	5,242	9,671	2,561	...	...
3.—Mowah flower	29,078	2,602	21,699	5,532	10,227	2,069	...	...
4.—Oil-cake	51,063	6,130	40,807	8,312	...	...	8,092	...
5.—Paints & colours	10,640	2,725	12,421	3,840	1,781	115	...	...
6.—Seeds other than oilseeds	26,015	2,514	22,627	12,106	3,378	2,768	...	...
7.—Wooden articles	17,347	7,027	14,601	6,544	...	...	2,746	1,483
8.—Others	2,70,929	1,30,636	2,49,408	1,47,451	...	16,918	22,431	...
Total	99,32,375	23,78,508	96,51,881	24,14,274	2,80,600	36,760	...	...
Military stores	12,167	22,002	18,250	21,000	6,083	...	...	594
Quail for Railway	7,04,363	61,756	9,80,024	78,280	1,84,555	18,011	...	...
Railway materials	15,04,624	46,367	15,53,173	46,678	48,549	2,210	...	...
Live-stock	...	8,550	...	12,193	...	4,553	...	...
Total	1,12,80,545	23,99,092	1,21,05,008	25,70,274	8,02,463	31,113	...	...

T. SIMPSON, Assistant Auditor.

TRAFFIC AUDIT OFFICE, GOODS DIVISION, JAMALPUR, the 7th December 1895.

EASTERN BENGAL STATE RAILWAY.

Abstract of principal commodities carried over the Eastern Bengal State Railway during the month of September 1895, as compared with the same month of the previous year.

STAPLES.	1895.		1894.		Total.		Increase.	Decrease.
	Up.	Down.	Up.	Down.	1895.	1894.		
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Coal and Coke carried for the Public and Foreign Railways.	2,400	4,020	2,083	23,900	7,510	30,963	13,034	
Cotton, raw	120	103	15	66	223	81	163	
Cotton, manufactured—								
Twist and yarn, European	1,431		353		1,431	353	1,078	
Ditto, Indian	248	143	233	178	391	441		50
Piece-goods, European	3,038	7	4,005	8	3,043	4,673		1,629
Ditto, Indian	41	14	47		66	47		
Drugs and Chemicals—								
Intoxicating, other than opium	6	1	2		7	1		
Non-intoxicating—								
Cinchona bark								
Others	15		12		16	13		
Dyes and Tans—								
Indigo	4				4			
Myrabolans								
Cutch	28		37		28	37		
Turneric	9	82	1	146	98	147		49
Aniline dyes								
Others	7		6		7	5		
Grain and pulses—								
Wheat	18	10	17		26	17		
Rice in the husk	610	424	1,011	801	834	1,912		1,078
Rice not in the husk	2,403	1,740	2,308	1,274	4,228	3,020		1,208
Jawar and bajra								
Gram and pulses	1,500	912	1,530	431	3,619	2,351		1,268
Others	70	11	12		87	13		
Hides and skins—								
Hides of cattle—								
Dressed or tanned								
Raw								
Skins of sheep, &c.—								
Dressed or tanned								
Raw								
Horns								
Jute—								
Raw	590	75,371	173	75,494	73,907	75,607		1,700
Gunny bags and cloth	102	1,063	111	300	1,063	75,320		1,770
Lea—								
Shell								
Leather, manufactured	42		41		42	41		
Liquors—								
Beer	30		13		30	23		
Spirits								
Wines	91		87		91	87		
Metals—								
Copper, unwrought								
Brass, do.	11		4		11	5		
Copper, wrought								
Brass, do.	138	98	168	71	233	229		4
Iron	965	50	907	23	1,015	930		85
Others	63	2	61	10	66	50		
Oils—								
Kerosene	5,235	14	7,037	3	5,249	7,040		1,791
Castor	16		4		16	4		
Coconut	67		92		67	92		
Others	603		124		603	521		
Oilseeds—								
Linseed		54	3	143	54	145		91
Rape and mustard	493	374	245	580	767	825		58
Til or jhijli	1	32	1	63	33	64		31
Poppy	33				33			
Earthnuts								
Castor								
Others	20		27		20	27		
Opium								
Paper and pasteboard	141		111	47	141	159		17
Provisions—								
Ghee	55	6	101	1	61	101		40
Dried fruits and nuts	40		36		40	36		
Others	771	223	906	233	1,004	1,137		133
Railway plant and rolling-stock carried for the Public and Foreign Railways—								
Locomotives, engines and tenders and parts thereof								
Carriages and trucks and parts thereof								
Materials—								
Steel rails and fish-plates, sleepers and keys of steel and cast-iron								
Other sorts	5,142	142	3,308	60	5,289	3,410		1,879
Salt								
Saltpetre, &c.—								
Saltpetre	3				3			
Other saline substances								
Silk, raw—								
Foreign								
Indian								

STAPLES.	1893.		1894.		Total.		Increase.	Decrease.
	Up.	Down.	Up.	Down.	1895.	1896.		
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.		
Milk products—								
Foreign	100	100	100	100	100	100	100	100
Indian	100	100	100	100	100	100	100	100
Spices—								
Betel-nuts	100	100	100	100	100	100	100	100
Pepper	100	100	100	100	100	100	100	100
Ginger	100	100	100	100	100	100	100	100
Chillies	100	100	100	100	100	100	100	100
Cardamoms	100	100	100	100	100	100	100	100
Others	100	100	100	100	100	100	100	100
Stone and lime	100	100	100	100	100	100	100	100
Sugar—								
Refined or crystallised, including sugar-candy.	100	100	100	100	100	100	100	100
Unrefined, viz., molasses and jaggery or gur, and other saccharine produce.	100	100	100	100	100	100	100	100
Tea—								
Foreign	100	100	100	100	100	100	100	100
Indian	100	100	100	100	100	100	100	100
Timber	100	100	100	100	100	100	100	100
Tobacco—								
Unmanufactured	100	100	100	100	100	100	100	100
Manufactured—								
Chairs	100	100	100	100	100	100	100	100
Other sorts	100	100	100	100	100	100	100	100
Wool, raw	100	100	100	100	100	100	100	100
Wool, manufactured—								
Pine-woods, European	100	100	100	100	100	100	100	100
Ditto, Indian	100	100	100	100	100	100	100	100
Shawls	100	100	100	100	100	100	100	100
All other articles of merchandise	100	100	100	100	100	100	100	100
Total	100	100	100	100	100	100	100	100

CALCUTTA, the 29th November 1895.

HARRY STUART,
Examiner of Accounts.

BENGAL AND NORTH-WESTERN RAILWAY.

(INCLUDES THE TIRHUT STATE RAILWAY.)

Approximate Return of Traffic for the week ending 30th November 1895 on 756 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other combined (estimated), including steam-boats.	Total estimated.	TRAFFIC TRAIN-MILES RTS.		
	Number of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs.	Mds.	Rs.	Rs.	Rs.			
Total traffic for the week on 756 miles open ...	98,240	40,870	3,77,940	56,160	18,690	(a) 1,04,710	14,121	30,856	44,977
For per mile of railway ...	129.06	54.00	495.70	74.07	16.77	143.80	...	...	...
For previous 50 weeks of half-year (b) ...	2,110,638	8,66,420	57,32,301	7,70,586	3,08,783	18,65,094	328,145	325,183	653,328
Total for 51 weeks ...	2,277,898	9,09,290	61,69,301	8,26,746	3,19,403	19,63,904	343,381	344,367	687,748
COMPARISON.									
Total for corresponding week of previous year on 756 miles open ...	97,950	40,530	3,49,266	48,901	8,574	94,030	15,290	17,000	32,290
For per mile of corresponding week of previous year ...	129.58	53.66	466.70	64.04	11.34	128.67	...	...	...
Total to corresponding date of previous year ...	2,250,851	8,78,843	60,81,540	8,46,438	2,11,237	19,35,510	343,974	328,548	672,522

(a) Increase is due to better traffic on the Tirhut Section.

(b) Includes audited figures up to week ending 12th October 1895.

DARJEELING-HIMALAYAN RAILWAY COMPANY, LIMITED.

	Rs.	As.	P.
Approximate earnings for the week ending 30th November 1895 ...	13,844	0	0
Corresponding period of 1894 ...	12,333	0	0
Increase ...	1,511	0	0
Receipts per mile for the week ending 30th November 1895 ...	271	7	2
Corresponding period of 1894 ...	241	13	2
Increase ...	29	10	0
Receipts from 1st July to 30th November 1895 ...	3,98,001	0	0
Corresponding period of 1894 ...	2,70,649	0	0
Increase ...	1,27,352	0	0



SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, DECEMBER, 18, 1895.

OFFICIAL PAPERS.

Non-Subscribers to the GAZETTE may receive the SUPPLEMENT separately on payment of Six Rupees per annum if delivered in Calcutta, or Twelve Rupees if sent by Post.

CONTENTS.

	Page.		Page.
THE Canal Revenue Reports for 1894-95	2011	TABLE of Rainfall recorded at Stations in Bengal for the month of November 1895	3044
Resolution on the Reports of the Progress of Surveys and Settlements during the year ending 30th September 1895	3021	Results of the Meteorological Observations taken at the Alipore Observatory from 8th to 14th December 1895	3063
Extension of the system of payment of rent by means of postal money-order to the district of Puri in Orissa with effect from the 1st January 1896	3057	Meteorological Report of the Province of Bengal for the week ending Saturday, the 14th of December 1895	3064
Weather and Crop Report for the week ending 16th December 1895	3058	Statement of Rainfall in Bengal for the week ending Saturday (8 a.m.), the 14th of December 1895	3050
Statement showing the quantities of the Principal Staples of Traffic imported and exported into Calcutta from the interior during the month of August 1895	3040	Results of the Barometrical and Thermometrical Observations taken at the Meteorological Office, Chowmahatta, from 8th to 14th December 1895	3061
Meteorological Report of the Province of Bengal for the month of November 1895	3042	Circular and Eastern Canals for the week ending Saturday, the 14th December 1895	3067
		Weekly return of Traffic Receipts on Indian Railways	3062

THE CANAL REVENUE REPORTS FOR 1894-95.

No. 13307.A.

GOVERNMENT OF BENGAL—IRRIGATION DEPARTMENT.

Accounts.

Dated Calcutta, the 3rd December 1895.

RESOLUTION.

READ—

The Canal Revenue Reports for 1894-95 and the Chief Engineer's note on the same.

The capital outlay on canals in Bengal, of which Capital and Revenue Accounts are kept, had reached a total of Rs. 7,52,85,304 at the close of the year under review. Of this sum, Rs. 1,07,60,220 have been provided from Provincial Funds, Rs. 6,16,30,182* from Loan Funds, and Rs. 8,66,000 contributed by the Imperial Government from Famine Relief and Insurance Funds.

2. The total length of the canals in Bengal is 916 miles, of which 495½ miles are for both irrigation and navigation, 242½ miles for irrigation only, and 178 miles for navigation only. The total length of the distributaries is 2,603½ miles, and the area irrigable from them 1,570,219 acres.

3. The receipts for the year from both major and minor works were Rs. 1,95,569 less than in the preceding year, and the net revenue fell from Rs. 2,65,949 in 1893-94 to Rs. 1,38,135 in 1894-95.

YEAR.	Balance at beginning of year.	Balance at the end of the year.	Remissions, including cancelled demand statement.	Irrecoverable items.
1	2	3	4	5
	Rs.	Rs.	Rs.	Rs.
1885-86	8,84,289	5,38,177	1,41,162	41,229
1886-87	5,38,177	3,69,789	57,375	22,612
1887-88	3,69,789	5,49,483	32,356	19,796
1888-89	5,50,883	5,70,983	42,666	14,074
1889-90	6,79,983	5,09,188	80,282	20,592
1890-91	5,09,188	4,72,113	48,674	16,476
1891-92	4,72,113	4,04,120	38,421	12,126
1892-93	4,04,120	2,26,174	61,576	11,168
1893-94	2,26,174	1,72,235	29,054	4,818
1894-95	1,72,235	77,498	14,367	4,815
Average of nine years ending 1893-94 ...	5,04,302	4,25,185	59,061	18,099

These figures show great and steady improvement, the arrears having been brought down from $8\frac{1}{2}$ to $1\frac{1}{2}$ lacs in the ten years; while the opening balance of 1894-95 was reduced from Rs. 1,72,235 to Rs. 77,498 by the close of the year.

7. The remissions amounted to only Rs. 14,367, or less than half those made in 1893-94. The working of each canal is shown in the following table:—

Canal.	DEMAND.			COLLECTIONS (INCLUDING REMISSIONS).			Percentage of current collection on current demand.	Percentage of total collection on total demand.
	Arrear.	Current.	Total.	Arrear.	Current.	Total.		
1	2	3	4	5	6	7	8	9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		
Orissa	69,450	1,68,419	2,37,869	49,684	1,51,075	1,99,659	89.68	86.18
Midnapore	7,027	1,35,010	1,42,037	6,338	1,31,189	1,37,494	97.14	94.79
Sone	1,01,858	6,86,905	7,88,763	92,418	6,65,696	7,47,954	95.43	94.82

8. The collections made under navigation (excluding miscellaneous navigation receipts and those of the transport services) are shown below for ten years:—

YEAR.	Orissa Canals.	Midnapore Canal.	Hijli Tidal Canal.	Sone Canals.	Total.	Miles open.	Tollage per mile.
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Miles.	Rs.
1885-86	64,093	1,37,578	62,145	41,712	2,05,528	490	508.1
1886-87	58,604	1,09,893	51,904	49,685	2,69,926	490	551.8
1887-88	66,628	1,26,574	40,406	50,984	2,84,692	490	580.7
1888-89	69,830	1,46,760	58,910	52,162	3,22,662	490	649.9
1889-90	78,099	1,46,356	40,338	51,189	3,14,932	490	634.3
1890-91	1,08,951	1,10,830	27,145	56,593	3,01,529	496	607.3
1891-92	1,20,761	1,32,572	26,348	57,339	3,47,020	524	662.2
1892-93	1,00,508	1,14,141	52,180	49,096	3,16,925	524	604.3
1893-94	1,19,115	1,14,994	58,209	50,548	3,42,866	524	654.0
1894-95	96,220	1,35,492	57,080	49,349	3,38,150	524	645.0
Average of nine years ending 1893-94.	87,177	1,26,499	45,843	51,138	3,10,661	.....	.....

The revenue under navigation, though less than that of the preceding year, which was enhanced by the large pilgrim traffic attracted by the special festival at Puri, was above the average.

9. The miscellaneous revenue was Rs. 83,685, as compared with Rs. 78,006 in 1893-94, the average for the nine years preceding 1894-95 being Rs. 65,400.

10. The net revenue of the year was considerably less than that of 1893-94, for reasons which will be given in the following comments on the year's working of each canal system.

11. The capital outlay on the Orissa Canals has amounted to Rs. 17,19,078 from 1890-91 to the end of the year under review, against a sanctioned estimate of Rs. 19,58,356. Accordingly on the 31st March 1895, on which date the construction estimate of the Orissa Project was closed, there was a balance of Rs. 2,39,278 available for expenditure on works which had been sanctioned, but were incomplete at the close of the year. The most important of these are the new distributaries, of which 326½ miles have been opened since 1890-91, making an aggregate length of 1,091½ miles now in use. Although no additional channels are contemplated, much still remains to be done to many of those recently opened. There are also various details on works classed under the heads 'Main Canals' and 'Drainage and Protective Works,' which still remain to be completed.

12. The receipts on the Revenue Account were Rs. 3,32,345, against an average of Rs. 3,05,062 of the preceding nine years. Compared with 1893-94, however, the receipts show a decrease of Rs. 43,020. The falling off was chiefly in navigation receipts, which in 1893-94 were somewhat abnormally swelled by the large pilgrim traffic to the special festival at Puri. The decrease in water-rates amounted to Rs. 15,992, and was due partly to the comparatively small arrear balance which remained to be collected at the beginning of the year, and partly to the fact that the irrigated area of 1893-94 was much less than that of the preceding year. The earnings of 1894-95 were, however, greater than in the preceding year, as the area irrigated in that year was 122,561 acres, against 103,526 acres in 1893-94. The rainfall of the year, though not so abundant as in 1893-94, was still very seasonable, and the increase in the irrigated area is decidedly satisfactory, and will lead to a larger collection of water-rates next year.

13. Owing to the wide divergence between the results of the crop experiments made in 1893-94 in the Sone and Orissa Circles respectively, extra care was bestowed on them, during the year, in Orissa, where an officer with experience of the Sone methods was deputed to conduct them. They were also in many cases made jointly by Civil and Public Works officers. The following table gives an abstract of the results:—

		Quality of crop.	OUTTURN PER ACRE.	
			Paddy maunds.	Straw maunds.
1	2	3	4	
Orissa ...	Good ...	32.06	57.85	
	Average ...	25.07	44.00	
Sone ...	Good ...	31.92	75.38	
	Average ...	24.12	57.30	

The results differ so much from those obtained in previous years that the Lieutenant-Governor does not consider that they can be treated as conclusive, and desires that they should be repeated in the current year, and that the greatest care should be taken to secure accuracy. The conditions of the year were exceptionally favourable to Orissa, and the crops were extraordinarily good both in yield and quality, so that the outturn in 1894-95 obtained by these

experiments can hardly be considered as representing the normal yield. The rice crop in Orissa is probably much inferior in most years to that in the Sone, and the close correspondence between the results in the two tracts is presumably not in accordance with the ordinary state of things. The Lieutenant-Governor further observes that in every case the outturns obtained from the experiments made in the Brahmini-Byturni Division are very considerably less than those of the experiments made in the Mahanadi and Acquapada-Jajpur Divisions. This seems to point to a want of uniformity in the methods adopted in conducting the experiments. Paddy weighed on the same day that it is cut will certainly be heavier than if weighed after an interval of several days. The Lieutenant-Governor therefore desires that a revised set of rules be framed for the guidance of officers conducting experiments in each circle in future. If methods of exact precision are adopted in every irrigation division in the province, results will be obtained which will be strictly comparable, and therefore as useful as they will be interesting.

14. The number of certificate cases instituted during the year was 5,683 compared with 6,667 in 1893-94. This is a decided improvement, but the number is still larger than it should be, and the Lieutenant-Governor hopes that in future years it may be possible to avoid to a further extent, the necessity of having recourse to this method of recovering water-rates. He, however, notes with satisfaction that the number of cases pending at the close of the year was only 127, against 476 at its commencement.

15. The improvement in the collection of water-rates is very marked. The outstanding balance was reduced from Rs. 63,350 at the beginning to Rs. 32,140 at the close of the year. The number of objections to the assessments and the amount remitted was also less than in the preceding year.

16. The working expenses of the Orissa Canals were well kept down and do not grow. They amounted to Rs. 4,83,320 during the year, as compared with Rs. 5,35,477 in 1893-94 and Rs. 5,05,507 in 1892-93.

17. The net receipts of the Midnapore Canal fell from Rs. 3,04,769 in 1893-94 to Rs. 2,94,423 in the year under review, but the collections of water-rates in the former year were much increased by the large recovery of arrears. The water-rate receipts of 1895-96 will be still lower as the earnings of 1894-95 fell to Rs. 1,04,875, against Rs. 1,30,111 in 1893-94, and the area irrigated was 76,116 acres, against 85,703 acres in the previous year. The decrease is accounted for by the even distribution of the rainfall, which was nearly everywhere sufficient for the crops, though it fell short by nearly 10 inches of the rainfall of 1893-94. The leased area of 1893-94 was also swelled by the large area of 6,213 acres of rabi irrigation, which was quite exceptional. Usually there is little or no rabi irrigation from the Midnapore Canal. Navigation receipts on the other hand rose from Rs. 1,14,994 to Rs. 1,35,492 owing to a larger export of rice.

18. The statistics furnished by the Deputy Collector of the collection work done during the year are highly satisfactory. At the close of the year the arrears uncollected amounted to only Rs. 4,549, whereas at the beginning of the year they were Rs. 7,627, and at the beginning of 1893-94 the amount was Rs. 48,567. The amount remitted or written off was also less than in any of the five preceding years. The Lieutenant-Governor notices also the very creditable decrease in the number of certificate cases taken out. Only 579 cases were instituted during the year, as compared with 1,799 in 1893-94.

19. The working expenses of the canal amounted to Rs. 2,24,504, and were Rs. 16,374 in excess of those of the previous year. The increase was caused by some rather heavy repairs which were required at the head works. In other respects the expenditure was normal.

20. The capital expenditure in remodelling the Hijili Tidal Canal was Rs. 1,06,322, chiefly incurred on the large sluice on the Haldi River at Terapakia. The navigation receipts were Rs. 58,525, as compared with Rs. 59,196 of the previous year, and there was an appreciable reduction in the working expenses from Rs. 56,501 in 1893-94 to Rs. 47,426 in 1894-95, so that the net revenue rose from Rs. 2,695 to Rs. 11,099. The tonnage carried was larger, but the number of passengers less.

The Superintending Engineer remarks:—

"Notwithstanding the reduction of tolls for through traffic and a closure of the canal for three weeks during the busiest season, the receipts of the year fell little short of those for last year, which was an exceptional one."

21. The net revenue of the Sone Canals was Rs. 1,28,095, against Rs. 1,84,699 in 1893-94, and an average of Rs. 1,69,891 for the last nine years. The total receipts were Rs. 8,34,834 against Rs. 9,25,675 in 1893-94. The receipts for water-rates fell off from Rs. 8,42,309 to Rs. 7,43,243, while for navigation the amounts collected in the two years were nearly equal. The miscellaneous receipts were Rs. 35,020, against Rs. 29,578 in the previous year. The working expenses were Rs. 7,06,739, as compared with Rs. 7,40,976 in 1893-94, Rs. 7,51,247 in 1892-93, and Rs. 6,97,840 in 1891-92. The decrease falls mainly under the head "Maintenance and repairs," the expenditure on which in 1894-95 was only Rs. 2,20,227, against an average of Rs. 2,74,221 for the last five years, showing a reduction of Rs. 53,994. The cost of dredging has been much reduced. The Lieutenant-Governor regards these results with much satisfaction, and considers that they reflect credit on the Superintending Engineer and the officers serving under him.

22. The area irrigated was 317,134 acres, against 366,776 acres in 1893-94, and an average of 345,624 acres. The falling off was in both the kharif and rabi seasons, but especially in the latter, and was due to the abnormally heavy rainfall of the year. The Superintending Engineer remarks:—

"The copious rainfall in October, together with the heavy rainfall of the rabi season itself, which was more than double the average, so far moistened the soil, that irrigation in most cases was entirely unnecessary for the rabi crop."

There was a large falling off in the area irrigated under long-term leases from 291,746 acres in 1893-94 to 263,990 acres in 1894-95. This was due to the fact that a large number of leases lapsed on the 31st March 1894, and, on account of the copious rainfall of the two past years, were not renewed.

23. It is anticipated that the rules introduced in December 1894 to restrict the areas irrigated in villages near the canals, which have hitherto monopolized an undue share of canal water, will eventually prove very beneficial. The new rules prescribe that leases are not to be granted for more than 50 per cent. of the area of a village, unless the village has been under long lease and seeks its immediate removal when it expires, when it will be decided in each case whether it would be right to refuse to renew the lease for more than 50 per cent. of the area of the village. When these rules have had time to take effect, villages which have hitherto been left out in the cold will enjoy the benefits of canal water, and the areas adjacent to the canals should become more sanitary.

24. The Lieutenant-Governor notes with pleasure the very good work done in collecting water-rates. The arrears outstanding on the 1st April 1894 amounted to Rs. 1,01,858. Of this balance, Rs. 92,218 were collected during the year, giving a percentage of 90.7 per cent. The current demand for 1894-95 was Rs. 6,86,005, of which Rs. 6,55,536, or 95.4 per cent., were collected. The unadjusted balance at the end of the year was Rs. 40,809. The arrears have never been so low, the percentage of collection never so high.

25. The amount remitted fell to Rs. 4,091, which is less than in any previous year, and the number of objections preferred against the assessment of water-rates has fallen greatly as compared with previous years, and is now only 2,557, of which number only 75 were undisposed of at the end of the year. There is hardly any better test of good administration than this. The number of certificate cases also fell from 2,372 in 1893-94 to 2,119 in 1894-95, and all of these were disposed of except 70.

26. The financial results of the canals classed as minor works and navigation are shown in the statement below. The Eden Canal has been included, as, though neither Capital nor Revenue Accounts are kept, revenue is derived from it. The Saran Canals were closed throughout the year, and they have accordingly been excluded:—

	CAPITAL EXPENDITURE.		Receipts.	Expenditure.	Net income.	Average net income of nine years ending 1895-96.
	Of year.	To end of year.				
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Calcutta and Eastern Canals	1,070	51,55,322	4,43,003	2,89,267	1,53,736	2,41,341
Orissa Coast Canal	47,270	44,37,453	55,940	87,071	-31,131	-14,223
Nadia Rivers	Nil	Nil	1,41,698	1,40,879	819	79,473
Eden Canal	Nil	Nil	20,541	20,724	-18,183	-16,077
Total	48,340	95,92,775	6,20,541	5,09,865	1,10,865	9,00,591

* Average of six years.

27. The receipts from the Calcutta and Eastern Canals, which are purely navigation works, were Rs. 4,43,003, against Rs. 4,20,541 in the previous year. The working expenses were Rs. 2,89,267, as compared with Rs. 2,87,129 in 1893-94. The net revenue therefore increased from Rs. 1,33,412 to Rs. 1,53,736. This improvement is satisfactory as far as it goes, but the receipts are still below the average of the last nine years, which is Rs. 5,07,189, and, it may be added, are still lower than they ought to be. It has been represented that the tolls on flats towed by steamers, and the tolls levied on steamers using the Sundarbans route are inadequate. The expenditure incurred during the last eleven years in maintaining this route was Rs. 70,114, whereas the tolls realised during that period amounted to only Rs. 55,285. This question is still under consideration. A very substantial increase in the number of boats using the canal is reported, and there is every indication of the traffic still further increasing, notwithstanding the competition of the Eastern Bengal State Railway with the canal. The Bhangore khal is a section of the canal which the tide enters at both ends, depositing a great mass of silt in the middle. The shallowness of the water, and the consequent long closures necessary to clear the khal, have been a great obstruction to navigation. It has been decided to construct locks at both ends of the section, at a cost of about eleven lakhs of rupees, and the works will be commenced during the current year. If they are eventually successful, they may prove the forerunner of other and similar measures on the various links of the route, which are at present, though in a lesser degree, in much the same condition as the Bhangore khal.

28. On the Orissa Coast Canal the receipts were less by Rs. 30,027 than those of 1893-94, which were exceptionally large on account of the abnormal pilgrim traffic, but they were not much less than the average of ordinary years. The expenditure was Rs. 87,071, as compared with Rs. 98,133 in 1893-94, and the net result was a loss of Rs. 21,131. With the object of inducing boats using the upper reaches of the coast canal to continue their journey to Calcutta by the Hijili Tidal Canal, a change was made in the tolls during the year, and through tickets were issued at reduced rates from various stations on the coast canal to Gewankhali, where the Hijili Canal enters the Hooghly. The tendency had been for boats when they emerged from the coast canal at Kalinagar to go down the Russulpore River and up the Hooghly, thus avoiding the payment of tolls on the Hijili Canal. It will not probably be ever possible to entirely stop this in fine weather, but the safety of the canal route compared with the river, will induce boats to use it in bad weather, if they can get tickets at cheap rates.

29. The receipts from the Nadia Rivers amounted to Rs. 1,41,698, against Rs. 1,71,251 of the previous year, showing a decrease of Rs. 29,553. The expenditure decreased from Rs. 1,46,657 to Rs. 1,40,879. The receipts are about Rs. 46,000 below and the expenditure about Rs. 32,000 above the average of the last 9 years, and as a result the net revenue was only Rs. 819, compared with an average of Rs. 79,473. The reasons given for the large fall in the receipts are that the Jalangi River had deteriorated so much that it was found impossible to keep it open, and for the greater part of the year it was unnavigable for large boats. There was some improvement in the Bhagirathi, but the depth of water was not sufficient to float the large boats which usually ply on the Jalangi. Altogether the number of boats in these rivers fell off by 6,600 or 12 per cent., and the tonnage fell from 7,89,000 to 6,68,000.

tons. The rise in the expenditure is to be accounted for in the gradual deterioration of these rivers, and the consequent increase in the cost of training works both at the heads, and in the courses of the rivers.

30. The area irrigated from the Eden Canal during the year was 20,380 acres, as compared with 11,739 acres in 1893-94. The rainfall, though not large, was seasonable, and in the kharif season it was as copious as in the previous season. Out of a total demand of Rs. 69,662 only Rs. 29,674 were collected against Rs. 35,943 in 1893-94, and the outstanding balance (after remissions) was Rs. 33,169. Such large arrears must not be allowed to accrue in future. The expenditure was Rs. 52,738 against Rs. 50,340 in the previous year. Only half of this expenditure was on maintenance, and the rest was devoted to original works and improvements.

31. The amount of inspection done by the Superintending Engineer, Orissa Canals, was too small, but the other Superintending Engineers and all the Executive Engineers devoted a full and sufficient amount of time to this duty.

32. Mr. Odling took leave on 12th March 1894, and on his return from furlough has been transferred as Secretary in the Public Works Department and Chief Engineer to the North-Western Provinces, thus severing his connection with Bengal, in which province he has been employed for 30 years. Sir Charles Elliott desires to record his high appreciation of Mr. Odling's services throughout the three years doing which he has been in charge of the Irrigation and Marine Departments in this Province. In the difficult and technical business of the Marine Department his experience and ability have been of the greatest assistance to the Lieutenant-Governor. In the Irrigation Department he has carried out a series of administrative reforms which His Honour had greatly at heart, and the increased punctuality of the assessments, the diminished number of objections, the great decrease in the arrears of water-rates and of certificates needed for the realization of arrears, the alterations in the dates of payment and in the incidence of the water-rates, and the equalisation of the tollage rates in navigation, are results which are equally beneficial to the Administration and to the public who use the canals. At the same time on the professional or engineering side of his duties he has maintained the efficiency of the Sone canal system and improved that of the Orissa system by strengthening its embankment and developing its distributaries.

33. Colonel McArthur officiated as Secretary in Mr. Odling's absence to the Lieutenant-Governor's satisfaction, and as Superintending Engineer he and Mr. Buckley have contributed largely to the successful working of the department.

ORDER.—Ordered that a copy of this Resolution and of the Chief Engineer's note, and its accompaniments, be submitted to the Government of India in the Public Works Department, and published in the *Calcutta Gazette*. Also that it be circulated to other Governments and to all Departments and Officers of this Government as usual.

By order of the Lieutenant-Governor of Bengal,

O. C. LEES,

Under-Secretary to the Govt. of Bengal.

Government of Bengal.
IRRIGATION DEPARTMENT.

REVENUE REPORT.

Notes by COL. A. D. MCARTHUR, R.E., Offg. Chief Engineer, on the Canal Revenue Reports of Bengal for the year 1894-95.

The Capital expenditure on Irrigation Works in 1894-95 was as follows:—

	Direct charges. Rs.	Indirect charges. Rs.	Total. Rs.
Capital expenditure not charged against Revenue ...	4,82,915	11,166	4,94,081
Minor Works and Navigation ...	46,818	634	47,452
Total ...	5,29,733	11,800	5,41,533

2. The total Capital outlay at the end of the year 1894-95, excluding interest charges was:—

	Direct charges. Rs.	Indirect charges. Rs.	Total. Rs.
<i>Major Irrigation Works—</i>			
Productive Public Works ...	6,22,88,824	17,37,447	6,40,26,311
<i>Minor Works and Navigation—</i>			
Protective grants—Imperial ...	8,66,000	...	8,66,000
Ordinary revenue { Imperial and Provincial. }	1,01,07,578	2,85,415	1,03,92,993
Total ...	7,32,62,402	20,22,902	7,52,85,304

3. The outlay abstracted above is shown in the following statement divided under the different projects:—

WORKS.	During 1894-95.			To end of 1894-95.		
	Direct charges.	Indirect charges.	Total.	Direct charges.	Indirect charges.	Total.
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
<i>Major Irrigation Works—</i>						
Orissa Canals ...	3,37,713	7,766	3,45,479	2,58,64,409	5,78,853	2,62,43,063
Midnapore Canal ...	...	...	...	82,61,817	1,64,152	84,45,489
Hijuli Tidal Canal ...	1,06,323	2,623	1,08,946	33,69,087	59,114	24,28,181
Sone Canals ...	38,840	777	39,617	2,59,04,031	9,15,568	2,69,09,599
Total ...	4,82,915	11,166	4,94,081	6,22,88,824	17,37,487	6,40,26,311
<i>Minor Works and Navigation—</i>						
Tirhut project ...	...	...	...	5,87,425	74,050	6,06,075
Damodar project ...	(—) 1,200	...	(—) 1,200	1,43,941	16,239	1,60,180
Calcutta and Eastern Canals ...	1,076	...	1,076	52,98,118	62,404	59,58,522
Orissa Coast Canal ...	46,942	634	47,576	43,32,524	1,04,939	44,37,463
Saran Canals ...	...	...	...	6,69,670	27,183	6,96,753
Total ...	46,818	634	47,452	1,09,73,578	2,85,415	1,12,58,993
GRAND TOTAL ...	5,29,733	11,800	5,41,533	7,32,62,402	20,22,902	7,52,85,304

REVENUE.

4 The statement below shows the totals for the last five years, of the receipts, working expenses, and interest charges for Major Irrigation Works:—

PARTICULARS.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Receipts from all sources (less refunds of revenue) ...	13,39,141	15,98,608	16,83,847	10,65,005	15,20,127
Working expenses (direct and indirect charges) ...	14,32,136	14,97,935	14,86,398	15,41,144	14,62,049
Net revenue ...	(—) 92,995	1,60,673	8,97,954	1,23,661	58,078
Charges for interest ...	23,67,119	24,18,963	24,42,363	24,61,878	24,81,896
Deficit ...	24,60,114	22,55,690	20,44,409	23,38,017	24,23,817
Rate per cent. of deficit on Capital outlay ...	4.02	3.61	3.24	3.68	3.79

INTEREST

5. The total amount of interest payable to the Imperial Treasury on account of Major Irrigation Works for the year 1894-95 is Rs. 24,58,205.

6. The financial results of Major Irrigation Works to the end of the year 1894-95 were as follows:—

			Major Irrigation Works.
			Rs.
Direct revenue	...	...	2,40,96,145
Working expenses (direct charges)	...	...	2,40,66,691
Results on direct charges only	...	Profit	6,29,454
Indirect charges debitable to revenue	...	...	13,68,776
Results on both direct and indirect charges	...	Loss	(—)7,39,322
Charges for interest on Capital	...	...	4,86,18,575
Net results, including interest to end of 1894-95	...	Loss	(—)4,93,57,897

7. The financial results to the close of the year 1894-95 of Minor Works and Navigation are shown below:—

		Works for which capital and revenue accounts are kept.	Works for which only revenue accounts are kept.
		Rs.	Rs.
Direct revenue	...	2,39,65,341	88,80,539
Working expenses (direct charges)	...	1,02,72,426	49,63,337
Results on direct charges only	Profit	1,36,92,915	Profit 39,17,202
Indirect charges debitable to revenue	...	3,09,484	2,64,957
Results on both direct and indirect charges	Profit	1,33,83,431	Profit 36,52,245

8. The following statement shows the financial results of Irrigation, Navigation, and Agricultural Works during the year compared with those of 1893-94:—

	1893-94. Rs.	1894-95. Rs.
RECEIPTS.		
XXIX—Major Irrigation Works—Direct Receipts— Provincial	16,72,626	15,24,040
XXX—Minor Works and Navigation— Irrigation and Navigation Works— Provincial	7,33,287	6,83,701
Total	24,05,913	22,07,741

EXPENDITURE.*		
42—Major Irrigation Works—Working Expenses— (Direct and indirect charges) Provincial	15,48,765	14,64,962
43—Minor Works and Navigation— Irrigation and Navigation Works— (Direct and indirect charges) Provincial	5,99,458	6,11,616
Total	21,48,223	20,77,578
NET REVENUE FROM IRRIGATION AND NAVIGATION WORKS	2,57,690	1,30,163
49—Imperial—Capital expenditure not charged against Revenue	4,96,317	3,58,575
43—Provincial—Capital expenditure charged against Revenue...	74,838(a)	1,82,958(b)
	5,71,155	5,41,533

* Inclusive of refunds of revenue.
(a) Includes Rs. 30,988 on account of Major Irrigation Works classed as 43—Minor Works and Navigation, under the orders of the Government of India.
(b) Includes Rs. 1,35,506 on account of Major Irrigation Works classed as 43—Minor Works and Navigation, under the orders of the Government of India.

				1893-94. Rs.	1894-95. Rs.
43—Minor Works and Navigation— Agricultural Works—					
RECEIPTS.					
Provincial—					
Collections by P. W. D.	...	...	...	11,380	11,912
Ditto by Civil officers	...	...	...	1,28,071	1,81,347
Total	...	...	...	1,39,451	1,93,259
EXPENDITURE.					
Provincial	...	...	...	8,38,429	8,93,176
Contributions	...	...	...	19,187	10,637
Total	...	...	...	8,52,616	7,03,813

REAS IRRIGATED.

9. The areas irrigated by the Major Irrigation Works, during the year 1894-95, and the four previous years, are shown in the following statement:—

Year.	ORISSA CANALS.				MIDNAPORE CANAL.				BOME CANALS.				TOTAL.			
	Kharif.	Rabi.	Provisional.	Total.	Kharif.	Rabi.	Provisional.	Total.	Kharif, including five-year and one-term leases.	Rabi, including five-year and one-term leases.	Provisional and hot weather.	Total.	Kharif.	Rabi.	Provisional.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1890-91	Acres. 175,889	Acres. 4,340	Acres. 280	Acres. 180,509	Acres. 22,002	...	...	Acres. 22,002	Acres. 255,940	Acres. 20,832	Acres. 4,803	Acres. 261,014	Acres. 618,811	Acres. 24,822	Acres. 4,822	Acres. 548,515
1891-92	175,453	5,945	280	177,088	23,905	...	...	23,905	256,219	177,306	1,196	257,415	619,577	181,319	1,435	736,331
1892-93	154,925	2,594	335	157,854	21,317	...	...	21,317	274,834	124,195	9,787	284,621	594,081	193,789	10,580	697,870
1893-94	100,406	2,904	216	103,526	55,763	...	...	55,763	250,528	86,463	12,790	263,771	406,807	63,328	20,006	550,131
1894-95	110,110	4,129	243	114,482	68,041	175	...	68,216	255,303	42,364	17,109	272,776	615,415	45,941	17,423	678,811

* Exclusive of lands surreptitiously irrigated, for which leases were granted in subsequent years.

The results of the working of each of the canal systems of the province during the year will now be described separately as in previous years.

GENERAL.

In all statements showing totals of receipts or expenditure, the figures are those of the Examiner of Accounts. In dealing with details, the figures of the Commissioner or of the Superintending Engineer have been taken.

ORISSA CANALS.

CAPITAL ACCOUNT.

10. The Capital, Interest, and Revenue Accounts of these canals are given below:—

1.—CAPITAL ACCOUNT.

HEADS OF ACCOUNT.				Outlay during 1894-95.	Outlay to end of 1894-95.
1				2	3
DIRECT CHARGES					
I.—Works	...	...	...	Rs. 2,63,128	Rs. 1,86,38,983
II.—Establishment	...	...	...	55,114	46,37,816
III.—Tools and plant	...	...	...	25,427	20,65,399
IV.—Suspense accounts	...	...	...	(—)5,920	1,40,379
Loss by exchange	...	...	...	...	2,68,070
Total	...	...	...	3,37,749	2,57,50,646
V.—Less—Receipts on Capital account	...	...	...	36	86,237
Net total Direct Charges	...	...	...	3,37,713	2,56,64,409
INDIRECT CHARGES.					
Capitalization of abatement of land revenue	...	...	...	50	38,233
Leave and pension allowances	...	...	...	7,716	5,45,420
Total Indirect Charges	...	...	...	7,766	5,78,653

The principal works charged to capital account in progress during the year were:—The raising of the right or flood bank of the Kendrapara extension canal; the construction of the Bara Kharsua flood embankment, which protects the Jajpur canal distributaries; the completion of the new distributaries from the Jalanda, Machgong, Gobri, Patamundi, and Jajpur canals; the construction of offices for zilladars at Munijunga, Jagatsingpur, Kendupatna, Kendrapara, Janapur and Aquapada; and quarters for sectional officers at Gopalpore, Marsagbai, Nurtang, Dasruthpore and Orai.

A few small drainage cuts and syphons for drainage under distributaries were constructed.

Since 1890-91 the expenditure on distributaries has been Rs. 7,18,371. The balance remaining to be spent on them is Rs. 41,614.

2.—INTEREST ACCOUNT.

		Rs.
Interest charges to end of 1893-94	...	1,86,67,621
Ditto for 1894-95	...	10,19,822
Total	...	1,96,87,443

INTEREST
ACCOUNT.

3.—REVENUE ACCOUNT—(Actuals).

REVENUE
ACCOUNT.

PARTICULARS.	EXPENDITURE—		PARTICULARS.	RECEIPTS—	
	During 1893-94.	During 1894-95.		During 1893-94.	During 1894-95.
1	2	3	4	5	6
<u>DIRECT CHARGES.</u>	Rs.	Rs.		Rs.	Rs.
I.—Works, maintenance, and establishment	4,14,506	3,69,037	Water-rates ...	2,09,542	1,93,550
II.—Revenue management	90,828	86,776	Navigation ...	1,43,911	1,15,201
			Miscellaneous ...	23,122	24,321
Total Direct Charges ...	5,05,394	4,55,813	Total ...	3,76,575	3,32,072
			Less—Refunds of revenue,	1,210	727
			Net total receipts	3,75,365	3,32,345
<u>INDIRECT CHARGES</u> ...	30,083	27,507	Deficit ...	1,60,112	1,50,975
Total Working Expenses	5,35,477	4,83,320	Total ...	5,35,477	4,83,320

NOTE.—The details by heads of expenditure for the year 1894-95 and nine preceding years will be found in the table given in paragraph following.

There was a decrease in both the receipts and expenditure, but the deficit was slightly less than in the previous year. The falling off in the navigation receipts is probably only temporary, and the receipts were enhanced in the previous year on account of the large pilgrim traffic.

11. The following statement compares the earnings with the outlay for the last two years. The term "earnings" as applied to irrigation denotes the assessed water-rate value of the irrigation effected during the year; as applied

TABLE.

the stations in the Central Provinces, from which the Mahanadi derives the greater part of its supply, was 60·27 inches in 1894-95, as compared with 94·74 inches in 1893-94.

FLOODS.

15. The maximum flood levels recorded during the year are compared in the following table with the maximum levels in 1893-94 and with the highest recorded levels:—

NAME OF RIVER.	Locality.	1894-95.		1893-94.		HIGHEST RECORDED.	
		Date.	Reading.	Date.	Reading.	Date.	Reading.
1	2	3	4	5	6	7	8
Mahanadi	Naraj above weir	26th July 1891	52'40	26th September 1893	67'75	26th July 1893	52'10
	Do. below weir	26th "	60'40	26th "	57'30	26th "	60'10
	Jobra above weir	26th "	75'45	26th "	71'15	26th "	75'05
	Do. below weir	26th "	71'05	26th "	65'35	26th "	75'00
Brahmini	Janspur above weir	26th "	62'00	14th "	66'10	26th " 1894	62'20
	Idito below weir	26th "	65'30	14th "	65'70	26th "	65'30
Bysarni	Aqnapada above weir	26th "	64'00	13th "	63'30	16th "	64'00
	Idito below weir	26th "	61'00	13th "	60'50	16th "	63'70
Balandi	Randia	26th "	68'48	13th "	53'40	13th Sept. 1893	64'70
Katjuri	Bellvue	26th "	60'00	6th August	78'50	26th July	53'20
Europe	Jagatpur above weir	26th "	69'35	26th September	67'70	4th " 1872	71'10
	Idito below weir	26th "	58'50	26th "	68'20	4th "	70'40

The Superintending Engineer writes:—

"The flood in the Mahanadi was a moderate one, and caused no injury to the canal works. The flood in the Brahmini was a very high one. It overtopped and breached the protective embankment under construction on the Khursua river, and did considerable damage to some of the new distributaries of the Jajpur Canal."

IRRIGATION.

16. The assessed and irrigated areas for the last ten years with the yearly rainfall are shown in the following statement:—

YEAR.	Kharif.	Rabi.	Perennial.	Total.	Rainfall.
1	2	3	4	5	6
	Acres.	Acres.	Acres.	Acres.	Inches.
1885-86	70,563	1,605	171	72,339	52·59
1886-87	75,115	2,440	154	77,709	60·07
1887-88	108,867	502	137	109,506	47·84
1888-89	166,319	2,779	194	169,292	49·07
1889-90	180,568	5,897	102	186,627	67·95
1890-91	175,829	4,250	220	180,299	63·17
1891-92	173,453	3,943	289	177,685	61·03
1892-93	158,025	2,594	333	160,952	56·43
1893-94	100,406	2,904	216	103,526	74·83
1894-95	118,116	4,102	343	122,561	53·91

17. The following statement shows the details of the assessments as compared with the figures of the two preceding years:—

CROP.	Rate per acre.	1892-93.		1893-94.		1894-95.	
		Area.	Amount.	Area.	Amount.	Area.	Amount.
1	2	3	4	5	6	7	8
Kharif ...	{ Flow ...	Ra. A. P.	Acres.	Ra.	Acres.	Ra.	Acres.
...	{ Lift ...	(b) 165,737	2,53,448	(c) 94,679	1,41,916	(d) 108,389	1,61,922
Dhoya ...	{ Flow ...	(b) 2,197	2,197	(c) 6,553	2,676	(d) 274	274
...	{ Lift ...	...	...	...	...	...	...
Perennial crops ...	{ Flow ...	125	748	135	812	(d) 8,664	4,826
...	{ Lift ...	208	634	81	325	172	1,024
Dhoya ...	{ Flow ...	...	...	...	...	171	687
...	{ Lift ...	...	...	...	...	...	...
Rabi ...	{ Flow ...	2,291	2,406	2,713	2,389	8,440	4,429
...	{ Lift ...	...	...	...	...	...	...
Rabi ...	{ Flow ...	303	268	191	199	662	667
...	{ Lift ...	...	...	...	...	...	...
Dhoya ...	{ Flow ...	...	...	...	...	...	...
...	{ Lift ...	...	...	...	...	...	...
Unauthorized irrigation	{ Kharif ...	101	302	174	779	779	2,683
...	{ Rabi ...	...	...	...	...	...	...
Total		166,932	2,40,200	103,520	1,60,146	132,561	1,76,202

(a) 170,810 acres 5-year lease, and 2,626 acres annual lease.
(b) 158,589 acres 5-year lease, and 1,358 acres annual lease.
(c) 100,232 acres 5-year lease only.
(d) 117,188 acres 5 years lease, and 147 acres annual lease.

The area of unauthorized irrigation was 779 acres against 174 acres in 1893-94.

The increase in the kharif leased area was mainly due to the renewal of lapsed leases on all the canals. The decrease on the High Level Canal, Range III, is due to the non-renewal of many of the lapsed leases which were taken out during the drought of 1888. The greater portion of the area commanded by this canal, it is said, does not require canal water except in years of drought.

Of the commanded area 21·97 per cent., and of the area provided with distributaries 31·47 per cent. were under lease during the year.

18. The statement below shows the duties obtained in the kharif and rabi seasons on each of the canals, calculated from the gross discharge at the canal heads:—

PARTICULARS.		Kendra-para Canal system.	Taldunda Canal system.	High Level Canal, Range I.	High Level Canal, Range II.	High Level Canal, Range III.	Jajpur Canal.
1	2	3	4	5	6	7	
1894-95.	Kharif ... Acres	62,840	24,136	12,878	2,453	14,120	1,689
	Duty on gross supply	64·38	68·16	35·91	...	75·42	91·99
1893-94	Kharif ... Acres	59,303	11,941	10,468	2,000	15,801	...
	Duty on gross supply	67·56	73·82	35·95	142·25	118·50	...
	Rabi ... Acres	1,866	113	23	52	1	...
	Duty on gross supply	3·78	1·21	0·16	6·21	0·44	...
1892-93	Kharif ... Acres	65,724	36,327	20,950	2,285	32,104	...
	Duty on gross supply	64·93	114·97	60·51	119·76	98·95	...
	Rabi ... Acres	2,004	264	275	44	7	...
	Duty on gross supply	5·80	18·08	1·82	74·58	0·74	...

The duties in the kharif season calculated (i) on the gross discharge entering, (ii) on the discharge utilized, are given below:—

	Kendrapara Canal system.	Taldunda Canal system.	High Level Canal, Range I.	High Level Canal, Range II.	High Level Canal, Range III.	Jajpur Canal.
1	2	3	4	5	6	7
Area of kharif irrigation ... Acres	62,840	24,136	12,878	1,453	14,120	1,689
Average gross discharge at head of canal ... C. ft.	976·00	354	358·03	...	167·25	16·57
Average discharge utilized ... C. ft.	969·37	343	178·27	...	173·67	18·39
Duty of quantity entering canal ... Acres	64·38	68·16	35·91	...	75·42	91·99
Duty utilized ... Acres	75·70	68·75	74·58	...	81·20	91·99

Results of experiments on average rice crops broadcast, 1894-95.

DIVISION.	IRRIGATED LANDS.						UNIRRIGATED LANDS.					
	Number of experi- ments.	AVERAGE YIELD PER ACRE WEIGHED DRY.					Number of experi- ments.	AVERAGE YIELD PER ACRE WEIGHED DRY.				
		Paddy.		Num- ber of experi- ments.	Straw.			Paddy.		Straw.		
		Maunds.	Seers.		Maunds.	Seers.		Maunds.	Seers.		Maunds.	Seers.
1	2	3	4	5	6	7	8	9	10	11	12	
Mahanadi	37	32	23	37	54	18	23	24	5	31	21	
Brahmini-Rytural	66	31	20	66	34	16	3	10	5	24	35	
Aquapada-Jajpur	84	28	20	84	33	19	19	20	21	33	37	
Orissa Circle average	127	29	23	...	45	3	57	23	23	31	31	

Taking the average of the experiments on both "transplanted" and "broadcast" rice crops on irrigated lands, the results are as follows compared with those obtained in the Sone Circle:—

	Quality of crop.	OUTTURN PER ACRE.	
		Paddy maunds.	Straw maunds
1	2	3	4
Orissa	Good ...	32.98	57.85
	Average ...	25.07	44
Sone	Good ...	31.92	75.38
	Average ...	24.12	57.3

The results as regards grain agree very closely.

The value of the rice outturn from the irrigated lands in Orissa was Rs. 32.86 per acre, while from the unirrigated lands, it was Rs. 29.82 per acre.

20. The demands, collections and balances of water-rates are shown below for the last five years:—

ASSESSMENTS
AND COLLECTIONS.

YEARS.	Amount outstanding at commencement of year.	Amount falling due during the year.	Total for recovery.	Cash realisations.	Remitted or written off.	Balance at the end of the year.
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1890-91 ...	1,76,762	2,69,650	4,46,412	2,09,806	38,242	1,98,364
1891-92 ...	1,98,364	2,82,880	4,81,244	2,17,256	30,284	2,83,704
1892-93 ...	2,33,704	2,61,023	4,94,727	3,52,368	52,543	89,816
1893-94	89,816	1,90,824	2,80,640	2,00,542	7,748	63,350
1894-95 ...	63,350	1,68,449	2,31,799	1,93,550	6,109	32,140

The reduction in the outstanding balance is satisfactory. Of the total, Rs. 6,109, remitted and written off, Rs. 3,959 was classed as remission, and

2830 SUPPLEMENT TO THE CALCUTTA GAZETTE, DECEMBER 18, 1895.

Rs. 2,150 written off as irrecoverable. Including miscellaneous revenue, the total amount realized by the Deputy Collector was Rs. 2,12,178 as against Rs. 2,26,851 realised in the previous year.

CERTIFICATE.

21. The amount of certificate work done in each district is shown in the following statement:—

	CUTTACK.				BILASORE.				TOTAL.			
	1893-94.		1894-95.		1893-94.		1894-95.		1893-94.		1894-95.	
	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.
1	2	3	4	5	6	7	8	9	10	11	12	13
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
Cases for disposal—												
1. Cases pending at the close of the preceding year	363	6,163	423	5,544	110	5,345	53	509	979	9,408	470	4,028
2. Cases instituted during the year	4,803	22,220	4,481	22,094	1,984	7,764	1,902	5,870	6,467	20,033	5,623	27,009
Total	5,166	28,383	4,904	27,638	1,994	13,109	1,955	6,379	7,446	29,441	6,193	31,037
Cases disposed of—												
1. By being struck off owing to the demand having been remitted	342	3,305	197	979	50	457	25	258	500	2,532	323	1,328
2. By being wholly satisfied	4,824	21,851	4,707	22,094	1,944	10,753	1,930	5,612	6,946	27,501	5,800	25,681
Total	5,166	25,156	4,904	24,093	1,994	11,210	1,955	5,870	7,446	29,441	6,123	26,909
Balance outstanding at the close of the year	423	3,544	125	1,041	58	508	2	17	479	6,950	137	1,028

The results are satisfactory. There was less need to resort to this method of recovering water-rates and miscellaneous revenue during the year than in either of the two previous years. The number of cases pending at the end of the year is very small.

OBJECTIONS TO ASSESSMENTS.

22. The following table shows the number of objections filed against assessment and disposed of during the year:—

DIVISION.	CLAIMS FOR ORDINARY REMISSION.				OTHER COMPLAINTS.				Total complaints received during the year, including those pending from previous year.	Pending.
	Received during the year and pending from previous year.	Disposed of—		Pending.	Received during the year and pending from last year.	Disposed of—		Pending.		
		Remission allowed.	Remission refused.			Disputed.	Decided.			
1	2	3	4	5	6	7	8	9	10	
	No.	No.	No.	No.	No.	No.	No.	No.	No.	
Revenue	783	251	284	148	50	12	7	295	105	
Mahanadi	125	65	57	12	57	23	4	180	17	
Brahmin-Bhumra	284	101	127	5	48	41	1	223	7	
Akhayapada-Jajpur	600	238	209	70	21	28	9	479	79	
Total	1,712	743	720	227	180	185	15	1,681	204	

REMISSION.

23. The following is a statement of the amounts remitted, and written off as irrecoverable, during the year on account of water-rates, &c., compared with the figures of the previous year:—

Revision of Assessment.

	1893-94.	1894-95.
	Rs.	Rs.
(a) Unirrigated crops	2,640	2,155
(b) Damaged "	163	287
(c) Chaukidar's jagir	1,942	382
Total	4,735	2,824

28. The expenditure on maintenance and repairs during the year is shown in the following statement, compared with the expenditure in 1893-94 and in 1892-93:—

	1892-93.	1893-94.	1894-95.
1	2	3	4
	Rs.	Rs.	Rs.
Extensions and improvements ...	9,123	29,355	6,647
Head-works ...	53,456	45,757	59,800
Main canals ...	1,23,060	1,27,400	1,21,928
Distributaries ...	30,033	29,261	27,950
Drainage and protective works ...	11,997	8,237	5,480
Cost of working transport service ..	11,814	15,707	18,094
Total ..	2,39,483	2,56,717	2,34,799

The Superintending Engineer states that the expenditure on Extensions and Improvements was confined to revetting some portions of the bank of the Kendrapara and Gobri Canals with stone, to protect them from the wash of steamers, and to the completion of the new under sluice shutters of the Sone type at the Byturni weir.

The expenditure on maintenance and repairs was normal.

29. The cost of maintaining each of the weirs is shown below:—

NAME OF WEIR.	Length.	EXPENDITURE.			RATE PER RUNNING FOOT.		
		1892-93.	1893-94.	1894-95.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6	7	8
	Feet.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Naraj ...	3,833	4,031	5,621	2,505	1-05	1-48	0-65
Mahanadi ...	6,349	15,136	14,718	10,144	2-38	2-32	2-54
Beropa ...	1,980	9,546	4,043	5,980	4-77	2-04	3-00
Brahmini ...	4,000	2,985	4,044	1,906	0-74	1-01	0-48
Pattin ...	783	3,224	4,019	4,776	4-11	5-13	6-10
Byturni ...	1,026	4,604	4,315	2,810	4-48	4-20	2-74
Burra ...	526	3,140	2,262	15,306	5-97	4-30	29-10
Total of all weirs ...	18,497	42,666	39,022	49,427	2-30	2-11	2-09

30. The following statement shows the expenditure on each canal for the last three years:—

CANALS.	1892-93.			1893-94.			1894-95.		
	Miles.	Cost.	Per mile.	Miles.	Cost.	Per mile.	Miles.	Cost.	Per mile.
1	2	3	4	5	6	7	8	9	10
	No.	Rs.	Rs.	No.	Rs.	Rs.	No.	Rs.	Rs.
Kandrapara ...	30	40,133	1,338	29	35,112	1,211	27	42,458	1,573
Do. extension ...	15	7,747	517	15	17,901	1,193	13	4,979	383
Gabri ...	15	5,328	355	15	8,045	536	15	10,132	675
Do. extension ...	9	5,328	592	9	4,737	526	9	2,671	297
Pattamundi ...	47	14,051	299	47	11,053	235	51	15,591	306
Talimunda ...	51	11,103	218	50	11,097	222	53	7,141	135
Machhous ...	32	8,914	278	33	12,266	372	36	8,283	230
High Level, Range I ...	12	6,856	571	12	4,438	369	12	8,289	690
Do. II ...	12	6,856	571	12	7,000	583	12	6,793	566
Do. III ...	19	1,992	105	19	1,347	71	19	1,034	54
Jalpur Canal ...	9	1,992	221	9	1,347	150	9	1,034	115
Total ...	279	1,18,818	425	279	1,24,004	444	279	1,31,524	473

The increased expenditure on the Kendrapara, Pattamundi and Taldunda Canals was due to a more extensive clearance of silt than in previous years, and on the Gobri Canal, to thorough repairs having been carried out during the closure of the canal. On the other canals the expenditure compares favourably with that of the two previous years.

DISTRIBUTARIES.

31. The maintenance cost of the distributaries per mile is shown below. The average rate of Rs. 36 shows a satisfactory decrease as compared with the mileage rates of 1893-94 and of 1892-93, which were Rs. 38 and Rs. 39, respectively.—

	1893-94.			1892-93.			1891-92.		
	Miles.	Cost.	Per mile.	Miles.	Cost.	Per mile.	Miles.	Cost.	Per mile.
1	2	3	4	5	6	7	8	9	10
DISTRIBUTARIES.	No.	Rs.	Rs.	No.	Rs.	Rs.	No.	Rs.	Rs.
Kendrapara Canal System ...	357	14,493	40.68	357	11,182	31.33	337	10,340	30
Taldunda Canal ...	71½	3,784	53.08	71½	3,692	51.67	71½	3,948	55
Machgong Canal ...	128½	6,034	47.17	123½	6,093	49.48	123½	6,066	49
High Level Canal, Range I ...	181½	2,945	16.23	181½	2,848	15.70	181½	4,015	22
Ditto, do. II ...	404	3,184	7.88	404	3,040	7.53	404	3,381	8.37
Ditto, do. III ...	37½	630	16.80	37½	2,477	66.06	37½	1,710	45
Pattamundi Canal ...	768½	30,033	39	768½	29,362	38	768½	27,948	36
Total ...	768½	30,033	39	768½	29,362	38	768½	27,948	36

The lengths of distributaries in the above are those which have been brought on the revenue account, and consequently differ from the lengths given in paragraph 15 which include all so far advanced as to be fit for use, whether the capital account is still open or not.

DRAINAGE AND PROTECTIVE WORKS.

32. The total expenditure on these works was Rs. 5,480, which is considerably less than the expenditure in any of the three previous years. It includes the upkeep of 131 miles of first class protective embankments and 247 miles of drainage cuts.

DREDGING AND SILT-CLEARING.

33. The following table shows the cost of silt clearing and dredging during the year 1894-95 :—

NAME OF CANALS.	Silt-clearing.			Dredging.		
	Quantity.	Rate per 1,000.	Cost.	Quantity.	Rate per 1,000.	Cost.
1	2	3	4	5	6	7
	C. feet.	Rs.	Rs.	C. feet.	Rs.	Rs.
Kendrapara Canal ...	6,126,469	3.64	22,298	617,282	4.94	3,049
Extension ...	39,762	14.91	593	10,400	17.40	181
Pattamundi Canal ...	1,771,795	2.12	3,765	...	...	...
Gobri Canal ...	1,679,793	1.72	2,892	22,428	7.53	169
Extension ...	1,144,267	2.50	2,868	30,168	8.19	247
High Level Canal, Range I ...	948,304	2.86	2,713	...	...	...
Ditto, " II ...	78,829	2.51	198	...	...	...
Ditto, " III ...	232,287	2.41	560	...	...	...
Jajpur Canal ...	...	...	...	...	...	...
Taldunda Canal ...	1,731,525	2.90	5,030	364,633	7.68	2,789
Machgong Canal ...	223,954	2.20	491	...	...	...
Total ...	13,976,975	2.96	41,398	1,044,911	6.17	6,445
Total, 1893-94 ...	8,726,140	3.16	11,775	1,105,270	4.97	5,480

There was an extensive clearance of silt, which had to a large extent been deposited during the cyclone of the previous year, in all the canals of the Kendrapara system. The Superintending Engineer writes :—

"The quantity removed by means of the steam dredgers was rather less than in the previous year, but the total cost and the average rate was higher. This is due to the high rate on the Taldunda Canal. The rate on the Kendrapara Canal (including lifting on boats

by the dredgers and carrying to the spoil banks by manual labour) was Rs. 4.94 per 1,000, as against Rs. 6.24 in the previous year. The Executive Engineer, Mahanadi Division, explains the high rate, viz., Rs. 7.88 per 1,000 on the Taldunda Canal, as due to the extra lead in carrying the silt dredged to fill up and improve some low ground near the steamer ghat."

34. The receipts from the Postal and Telegraph offices at Jagatpur, Kendu-patna, Aquapada, and Janapur amounted to Rs. 1,083 during the year. The amount guaranteed by the Department was Rs. 1,464. The difference Rs. 381 is a charge against the canal revenue. TELEGRAPH OFFICES.

35. The following statementshows the number of trees in each Division in PLANTATIONS. 1894-95 compared with the numbers in the previous year :—

DIVISIONS.	NUMBER OF TREES.		Difference.
	1893-94.	1894-95.	
1	2	3	4
Mahanadi ...	33,736	37,917	+ 4,181
Brahmini-Byturni ...	77,709	72,874	— 4,835
Aquapada-Jajpur ...	23,568	25,891	+ 2,323
Total ...	1,35,013	1,36,682	+ 1,669

The reduction in the Brahmini-Byturni division is reported as being chiefly due to the omission of about 5,000 self-sown seedling date palms which are of no use. The receipts from plantations amounted to Rs. 2,515. Babu Jagdum Sahai was in charge of the Revenue Division during the year and did good work.

MIDNAPORE CANAL.

36. The Capital, Interest, and Revenue Accounts of this Canal are given below :—

1.—CAPITAL ACCOUNT.

CAPITAL ACCOUNT.

HEADS OF ACCOUNT.	Outlay during 1894-95.	Outlay to the end of 1894-95.
1	2	3
	Rs.	Rs.
Direct charges	82,92,875
Less—Receipts on Capital Account	...	31,558
Total direct charges	82,61,317
Indirect charges	1,84,152

There was no expenditure under this head during the year.

INTEREST
ACCOUNT.

2.—INTEREST ACCOUNT.

			Ra.
Interest charges to end of 1893-94	...	...	70,69,848
Ditto for 1894-95	...	...	8,30,453
Total	...	...	74,00,401

REVENUE
ACCOUNT.

3.—REVENUE ACCOUNT (Actuals).

PARTICULARS.	EXPENDITURE—		PARTICULARS.	RECEIPTS—	
	During 1893-94.	During 1894-95.		During 1893-94.	During 1894-95.
1	2	3	4	5	6
<u>DIRECT CHARGES.</u>	Ra.	Ra.		Ra.	Ra.
I.—Works, maintenance, tools and plant, and work establishment	1,72,935	1,85,104	Water-rates ...	1,65,630	1,36,882
II.—Revenue management	28,072	30,941	Navigation ...	1,14,994	1,35,492
			Miscellaneous ...	24,319	22,308
Total direct charges	2,01,057	2,16,045	Total	3,04,943	2,94,682
<u>INDIRECT CHARGES</u> ...	7,133	8,519			
Total working expenses	2,08,190	2,24,564			
Net revenue	96,579	69,959	Less—Refunds of revenue ...	174	259
Total	3,04,769	2,94,423	Total receipts	3,04,769	2,94,423

NOTE—The details by heads of expenditure for the year 1894-95 and nine preceding years will be found in the table given in paragraph 38 following.

EARNINGS.

37. The earnings of the Canal during the year, i.e., the assessed water-rate value of the irrigation done during the year, the assessed tollage, and the actual receipts under the head Miscellaneous, are compared below with the actual outlay:—

EARNINGS.		1893-94.	1894-95.
		Ra.	Ra.
Irrigation	...	1,30,111	1,04,875
Navigation	...	1,19,416	1,31,078
Miscellaneous	...	24,319	22,308
Total	...	2,73,846	2,58,261
Deduct refunds of revenue	...	174	259
Net earnings...	...	2,73,672	2,58,002
Outlay	...	2,08,190	2,24,564
Net earned profit	...	65,482	33,438

the Cossye and Rupnarain rivers compared with those of last year and with the highest recorded levels:—

River.	Locality.	1893-94.		1894-95.		HIGHEST RECORDED.	
		Date.	Reading.	Date.	Reading.	Date.	Reading.
1	2	3	4	5	6	7	8
Cossye	Midnapore above weir	24th June 1893	91.70	24th July 1894	85.70	1893	89.39
	" below weir	Ditto	70.00	Ditto	84.00	Ditto	81.65
	Panchkurah above weir	23rd June 1893	82.50	23rd July 1894	82.50	16th October 1878	85.90
Rupnarain	" below weir	Ditto	82.70	Ditto	82.40	Ditto	84.30
	Dainan	11th September 1893	16.80	2nd September 1894	16.80	26th August 1885	17.34
	Kantapukur	26th May 1893	16.50	Ditto	16.40	Ditto	16.80

The greatest discharge of the Cossye during the year was 40,071 cubic feet per second. After September the discharge diminished rapidly. The minimum discharge occurred on the 23rd March 1895, when only 16 cubic feet per second was registered.

43. The areas of the crops irrigated and leased during 1894-95 and the ten previous years, as also the average annual rainfall are shown below:—

YEAR.	Khari.	Rabi.	Perennial.	Total.	Rainfall.
1	2	3	4	5	6
	Acres.	Acres.		Acres.	Inches.
1885-86	68,769	...	...	70,604	81.28
1886-87	69,762	...	...	69,762	53.05
1887-88	64,702	1,162	...	65,864	22.08
1888-89	66,408	3,369	...	69,777	62.13
1889-90	68,370	440	...	68,810	44.47
1890-91	82,002	...	...	82,002	55.68
1891-92	83,905	68	...	83,973	61.81
1892-93	91,217	...	...	91,217	41.28
1893-94	79,550	6,213	...	85,763	70.63
1894-95	69,941	175	...	70,116	55.90

* Mean of observations of two stations—Midnapore and Panchkurah.

† Average of four stations throughout the irrigated area under the Midnapore and Panchkurah weirs.

The total area leased during the year was 70,116 acres as compared with 88,879 acres of the previous year. The kharif irrigation during the year amounted to 69,941 acres, which was less than that irrigated during 1893-94 by 12,725 acres. The Superintending Engineer writes:—

"The decrease in the area under kharif irrigation was due to the non-renewal of the lapsed leases, owing to the seasonable rainfall of 1894-95. There is practically no rabi irrigation from the Midnapore canal. The large area, viz., 6,213 acres last year was exceptional, and was due to the winter rice crop on a large tract of country having been inundated by a flood, which breached the left bank of the Cossye at Jagatpore, and the sowing of a part of this area afterwards with boro rice."

44. The following tables gives particulars about the areas under leases:—

PARTICULARS.	KHARIF.			Sugarcane and other perennial irrigation.	Rabi.	Total.
	Long leases.	Annual leases.	Subsidiary irrigation.			
1	2	3	4	5	6	7
Leases in force at the end of 1893-94	Acres. 89,006	Acres. ...	Acres. 209	Acres. ...	Acres. 9,503	Acres. 98,718
" which expired at the end of 1893-94	(a) 16,475	...	...	...	...	16,475
" in force at the beginning of 1894-95	67,191	...	...	...	190	67,381
" created during 1894-95	(b) 2,715	...	...	...	190	2,905
" in force during the year 1894-95	69,906	...	...	...	190	70,096
" which expired at the end of 1894-95	17,234	...	...	...	...	17,234

(a) Includes the decrease due to check measurement.

(b) Ditto increase, ditto ditto.

The amount shown in column 3 as falling due during the year 1894-95, includes the amount of water-rate assessments for the boro rigo irrigated in 1893-94, which did not fall due until 1st April 1894. The increase was also due to the realization of enhancements of the previous year's rates as a result of check measurement of the old leases at the time of their renewal. The work done by the Deputy Collector during the year was satisfactory. The Superintending Engineer writes as follows regarding the system of water-rate collections:—

"For the first time notices of assessment were issued by him (the Deputy Collector) showing the area irrigated. The amount of water-rate due, the date of instalment, and other matters, were served upon each lessee with a view to prevent any fraud being practised upon them by tahsildars as to the amount of rates payable."

48. The following statement shows the arrears of each former year which were outstanding at the beginning of 1894-95, as well as the current dues and the extent to which they have been worked off:—

ARREARS.

YEAR.	Amount previously due and unrealised.	Amount falling due within the year.	Total amount due to end of the year.	ADJUSTMENTS OF THE YEAR.				Balance unrealised at end of the month of March 1895.
				Cash recovered.	Remissions authorised.	Written off as being irrecoverable.	Total.	
1	2	3	4	5	6	7	8	9
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
1891-92	102 9 0	...	102 9 0	109 4 0	53 4 6	...	162 8 0	...
1892-93	1,035 12 0	919 14 0	1,954 10 0	1,254 1 3	20 8 9	...	1,274 10 8	...
1-93-94	8,808 7 6	80,922 8 0	89,730 15 6	24,344 4 6	191 4 3	...	85,028 8 2	895 6 9
1894-95	...	1,04,875 0 3	1,04,875 0 3	1,00,674 8 6	345 11 3	...	1,02,021 1 9	2,804 14 6
Total	7,526 12 6	1,86,010 6 3	1,93,536 8 9	1,56,928 1 3	611 10 3	...	1,57,493 13 6	6,546 5 3

49. The remissions granted during the year were very small and were as follows:—

REMISSIONS.

	Rs.
Remissions granted by the Collector under Rule 28 of the Midnapore canal rules	85
Remissions granted by Special Deputy Collector under clauses I and II of Rule 24 of the rules	26
Remissions granted by Special Deputy Collector under Rule 25 of the rules	501
	612

50. The extent to which recoveries by means of certificates were made during the year is shown in the following statement:—

CERTIFICATES.

PARTICULARS.	MIDNAPORE.			
	1893-94.		1894-95.	
	No.	Amount.	No.	Amount.
1	2	3	4	5
<i>Cases for disposal.</i>				
1. Cases pending at the close of the preceding year	356	Rs. 1,902	70	Rs. 493
2. Cases instituted during the year	1,799	12,102	579	5,708
Total	2,155	14,004	649	6,201
<i>Cases disposed of.</i>				
1. By being struck off, owing to the demand having been remitted.	48	248	97	1,370
2. By being wholly satisfied	2,037	13,323	535	4,602
Total	2,085	13,571	632	5,972
Balance outstanding at the close of the year	70	493	17	229

The reduction in the number of cases taken out, from 1,799 in 1893-94, to 579 in 1894-95, is very satisfactory and indicates good work on the part of the

collecting staff. Of the 97 cases struck off during the year, 30 were on account of the demand being irrecoverable owing to the death or insolvency or absconding of the debtors and 67 on account of objections.

OBJECTIONS
TO
ASSESSMENTS

51. The number of objections to assessments filed during the year and the nature of their disposal is shown in the following statement:—

DIVISION.	CLAIMS FOR ORDINARY REMISSION.				OTHER COMPLAINTS.			Total complaints received during the year, excluding those pending from previous year.	Pending.
	Received during the year and pending from previous year.	Disposed of		Pending.	Received during the year and pending from last year.	Disposed of.	Pending.		
1	2	3	4	5	6	7	8	9	10
Cossye	No. 259	No. 44	No. 204	No. 11	No. 229	No. 222	No. 7	No. 459	No. 18

REVENUE
ESTABLISH-
MENTS.

52. The cost of the revenue establishment during the last five years is shown below:—

ESTABLISHMENT UNDER THE COLLECTOR.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Permanent establishment, including travelling allowances	19,757	17,947	20,263	16,620	18,436
Temporary establishment	649	682	441	346	1,289
Contingencies	1,260	1,154	1,014	1,814	873
Headman's fees	60	335	375	325	813
Total	21,726	20,118	22,093	19,105	21,411

In addition to the above, the following sums were paid by the Executive Engineer for water regulation:—

		Water-regulation.	
		Permanent.	Temporary.
		Rs.	Rs.
1890-91	...	488	695
1891-92	...	473	682
1892-93	...	419	600
1893-94	...	822	288
1894-95	...	1,187	263

The increased cost of the permanent establishment is due to the transfer of patrols from the Revenue Department to the Executive Engineer's establishment in January 1894. The cost of collecting and assessing was 16.70 per cent. of the amount realized, as compared with 12.2 per cent. of the previous year. The Superintending Engineer attributes the increase to the reduction of demand, owing to the non-renewal of the lapsed leases, and also to the entertainment of temporary amins for check-measurement of the long leases.

NAVIGATION.

53. The navigation receipts of the year amounted to Rs. 1,35,492, as compared with Rs. 1,14,004 in 1893-94. The number of passengers carried by the Calcutta Steam Navigation Company was the largest on record, and the amount of tolls recovered from the Company was Rs. 44,431 as compared with

Rs. 30,647 of the previous year. The Superintending Engineer makes the following remarks:—

"The rice crop was a good one, and consequently the export was large. A large traffic seems to have sprung up in the tidal reaches, consisting of rice from the Ghattal side to Calcutta, and of paddy on the return journey from Calcutta.

"It is probable, however, now that parts of the Buxi khal have been cleared, that during spring tides, and especially during bad weather, these boats will only use that part of the tidal canal from Bansbaria to Ulubaria, so as to avoid the Rupnarain."

There was an increase of 3,698 tons of rice and 50 tons of paddy carried on the Midnapore Canal, as compared with the amounts carried in the previous year.

Particulars regarding the traffic on the canal for the last ten years are tabulated below:—

DESCRIPTION.	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6	7	8	9	10	11	
Miles open ... No.	72	72	72	72	72	72	72	72	72	72	72
Toll collections ... Rs.	1,25,331	1,01,064	1,00,400	1,25,332	1,16,409	59,504	(a) 1,20,573	(a) 1,14,141	(a) 114,994	(a) 1,33,493	
Rate of toll per mile ... "	2,304	1,908	2,040	2,368	2,190	1,668	1,641	1,585	1,597	1,853	
Number of boats, including empty boats ... No.	42,340	42,795	49,038	54,214	53,000	46,054	43,828	40,438	36,817	39,374	
Tonnage of boats ... Tons	372,608	387,440	400,868	570,803	602,415	417,803	411,892	4,10,003	308,691	480,266	
Passengers carried ... No.	122,064	204,551	160,667	167,289	178,116	187,700	183,236	(b) 205,804	(b) 203,643	(b) 212,686	
Estimated value of cargo, including rats ... Rs.	1,27,32,173	97,25,537	1,18,44,944	1,31,70,389	1,46,13,442	1,42,35,801	1,36,62,724	1,36,64,204	1,22,50,439	1,34,02,704	

(a) Inclusive of tolls (Rs. 51,190,39,006, Rs. 30,547, and 44,434) paid by the Calcutta Steam Navigation Company.
(b) Inclusive of passengers (92,257, 100,216) and 109,049 carried by the Calcutta Steam Navigation Company's steamers.

54. The miscellaneous receipts for the last five years were as follows:—

DETAILS.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Sale of water ...	...	...	10	4	...
Plantations ...	52	40	34	44	55
Other canal produce ...	37	5	1	2	1
Rent of buildings ...	721	711	740	712	890
Miscellaneous { Rent of lands	6,079	8,758	8,586	12,468	12,049
" of fisheries	736	4,447	1,162	1,479	1,507
Cost of process	1,009	2,516	1,280	2,173	722
Other items...	370	2,670	5,166	7,437	7,084
Total ...	9,004	19,147	16,979	24,319	22,308

55. The actual cost of maintenance and repairs, exclusive of establishment and tools and plant during the last four years is shown below:—

	1891-92.	1892-93.	1893-94.	1894-95.
	Rs.	Rs.	Rs.	Rs.
Head works, including buildings	8,373	9,965	9,430	15,461
Main canal and branches ...	1,18,241	59,802	67,404	68,702
Distributaries ...	10,365	12,612	20,982	18,501
Drainage and protective works	1,239	2,090	2,058	1,240
Working steamers ...	3,044	2,961	3,354	598
Total ...	1,41,262	87,430	1,03,178	1,04,502

The large increase in the cost of maintaining the head works was due mainly to sand-filling and rubble-packing in front of the under sluices at Mohanpur. The cost of working Government steamers and bholio was only Rs. 598, as compared with Rs. 3,354 in 1893-94. The expenditure on tools and plant was Rs. 39,569, against Rs. 38,788 of the previous year.

61. The expenditure on plantations during the year was Rs. 195, against PLANTATIONS. Rs. 236 of the previous year. A large number of saplings were destroyed by strong winds in June and July 1894. The following table compares the condition of the plantations in 1894-95 with 1893-94 :—

YEAR.	Trees upwards of 12 feet high.	Saplings between 4 and 12 feet.	Seedlings below 4 feet.	Total.
1	2	3	4	5
1894-95 ...	No. 13,010	No. 4,113	No. 3,227	No. 20,350
1893-94 ...	10,151	5,794	8,109	19,054

62. On the whole the administration of the year was satisfactory, though the seasonable rainfall resulted in a falling off in the irrigated area.

GENERAL RESULTS.

Babu Raj Mohan Chakravarti was in charge of the Revenue Division during the year and did good work.

HIJILI TIDAL CANAL.

63. The capital, interest and revenue accounts of this canal are given below :—

1.—CAPITAL ACCOUNT.

CAPITAL ACCOUNT.

HEADS OF ACCOUNT.	Outlay during 1894-95.	Outlay to end of 1894-95.
1	2	3
DIRECT CHARGES.	Rs.	Rs.
I.—Works	81,583	16,62,210
II.—Establishment	18,739	5,51,988
III.—Tools and plant	6,000	1,33,004
IV.—Suspense accounts ... ..	.....	.....
Loss by exchange ... ..	.....	22,790
Total	1,06,322	23,69,992
V.— <i>Loss</i> —Receipts on capital account ... ..	.....	925
Net total—direct charges	1,06,322	23,69,067
INDIRECT CHARGES.		
Capitalization of abatement of land revenue	2,623	59,114
Leave and pension allowances ... ..	.....	.....
Total—indirect charges	2,623	59,114

The works in connection with the remodelling of the canal are approaching completion. During the year good progress was made with the large sluice on the Haldi river at Terapakia, which, when finished, will be used to feed the second range of the canal. The channel leading from it to the canal, about 2½ miles in length, is intended to act as a silt trap, so that by the time the water reaches the canal it will be free from matter in suspension. No other works charged to capital account were in progress during the year.

2.—INTEREST ACCOUNT.

INTEREST ACCOUNT.

	Rs.
Interest charges to end of 1893-94	17,45,805
Ditto for 1894-95	92,536
	18,38,441

REVENUE
ACCOUNT.

3.—REVENUE ACCOUNT (Actuals).

PARTICULARS.	EXPENDITURE—		PARTICULARS.	RECEIPTS—	
	During 1893-94.	During 1894-95.		During 1893-94.	During 1894-95.
1	2	3	4	5	6
DIRECT CHARGES.	Rs.	Rs.		Rs.	Rs.
I.—Works, maintenance and repairs ...	50,517	41,839	Water-rates ...	...	...
II.—Revenue manage- ment ...	8,700	41,40	Navigation ...	58,209	57,089
Total Direct Charges ...	54,217	45,479	Miscellaneous ...	987	1,436
Indirect charges ...	2,284	1,947	Total ...	59,196	58,525
Total working expenses ...	56,501	47,426	Less—Refunds of revenue ...	...	...
Net revenue ...	2,695	11,099	Net total receipts	59,196	58,525
Total ...	59,196	58,525			

NOTE.—The details by heads of expenditure for the year 1894-95 and nine preceding years will be found in the table given in paragraph 64 following.

FINANCIAL
RESULTS.

64. The following statement shows the receipts on revenue account and working expenses for the last ten years:—

PARTICULARS.	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6	7	8	9	10	11
RECEIPTS.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Navigation ...	52,143	51,904	40,400	63,931	40,338	27,144	29,343	29,180	68,300	27,000
Miscellaneous ...	313	2,800	1,423	1,340	1,614	859	587	1,332	587	1,436
Total ...	52,455	54,704	41,823	65,271	41,952	28,004	29,930	30,512	68,887	28,436
Less—Refunds of revenue ...	...	910	...	73	...	...	...	73	...	...
Total Receipts ...	52,455	53,794	41,823	65,207	41,922	28,044	29,915	30,439	68,196	28,436
WORKING EXPENSES.										
DIRECT CHARGES.										
I.—Works, maintenance, and repairs.										
Works ...	...	...	...	1,718	...	...	...	...	1,935	4
Repairs ...	24,000	11,908	47,928	50,920	15,712	27,012	23,508	16,447	26,077	20,146
Establishment, including direction and accounts ...	7,945	2,756	11,856	14,973	4,157	2,626	31,488	3,608	11,814	2,770
Tools and plant ...	2,284	4,155	2,105	2,808	1,900	12,487	1,033	2,938	2,801	5,617
Total ...	45,466	18,829	61,889	73,078	22,670	40,130	44,714	27,571	50,517	41,336
II.—Revenue management.										
Navigation establishment ...	2,145	2,926	2,007	2,195	2,630	2,328	2,265	4,532	2,700	4,140
Total Direct Charges ...	48,600	21,955	64,896	75,273	25,300	51,968	48,600	31,704	54,217	45,479
INDIRECT CHARGES ...	1,538	610	2,051	2,707	1,007	1,000	2,014	1,865	1,344	1,947
Total working expenses ...	50,137	22,565	66,947	78,040	26,307	53,674	50,614	33,569	55,561	47,426
Net revenue ...	2,308	30,766	(—)25,113	(—)22,843	15,230	(—)25,530	(—)13,700	20,801	2,695	11,099

65. The rainfall registered during the year at Contai station was 83·37 inches as compared with 78·26 inches in 1893-94.

The total maintenance charges amounting to Rs. 47,426 included Rs. 7,000 expended in repairing the locks during the closure. The net revenue of Rs. 11,099 compares favourably with the average of the previous nine years.

66. The floods of 1894-95 in the rivers crossed by the canal were not high ones and call for no remarks. The following statement shows the highest gauge readings of the rivers Hooghly, Haldi, and Russulpur:—

NAME OF RIVER.	Locality.	1893-94.		1894-95.		HIGHEST RECORD.		REMARKS.
		Date.	Reading.	Date.	Reading.	Date.	Reading.	
1	2	3	4	5	6	7	8	9
Hooghly	Gewankhali	25th May 1893	117·3	18th Sept. 1894	116·20	Cyclonic storm of 1879.	123·23	
Haldi	Terapakia	30th „ „	119·00	2nd „ „	110·60	“ Not known „	120·23	* Rounded on 18th without data (Mr. Verannes’).
Russulpur	Kalinagar	11th Sept. „	116·50	2nd „ „	114·70	30th August 1893	116·50	

67. The traffic statistics for the last ten years are given below:—

PARTICULARS.	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6	7	8	9	10	11
Miles open ... No.	20	20	20	20	20	20	20	20	20	20
Toll collections ... Rs.	69,143	(a) 61,904	(a) 60,465	(a) 53,910	(a) 40,843	(a) 27,145	(a) 33,343	(a) 59,180	(a) 56,900	(a) 57,069
Rate of toll per mile „	1,798	1,734	1,326	1,700	1,300	621	1,125	1,407	1,087	1,260
Number of boats, including empty boats No.	19,310	17,548	15,503	16,481	13,785	10,315	15,333	16,084	14,716	15,133
Tonnage of boats ... Tons	163,833	149,747	124,908	165,686	124,066	91,114	138,275	162,239	1,79,840	193,346
Passengers carried ... No.	...	6,469	11,051	24,023	(b) 30,822	(b) 22,450	(b) 27,939	(b) 43,485	60,061	(b) 34,961
Estimated value of cargo, including ... Rs.	32,74,961	31,48,896	34,13,361	53,01,122	37,39,730	30,79,979	34,67,735	62,56,350	42,87,469	4,06,290

(a) Inclusive of tolls, Rs. 1,403, Rs. 1,332, Rs. 4,593, Rs. 3,523, Rs. 3,346, Rs. 3,631, Rs. 5,608, Rs. 7,680, and Rs. 5,350 paid by the Calcutta Steam Navigation Company.

(b) Inclusive of passengers, 23,243, 17,554, 21,309, 21,703, 41,336, and 16,484 carried by the Company's steamers.

The tollage receipts amounted to Rs. 57,089, and show a decrease of Rs. 1,120 compared with the figures of 1893-94. But in that year the tolls were abnormally large on account of the pilgrim traffic attracted by the Car festival at Puri, which only occurs once in every 10 or 12 years. Comparing the returns of 1894-95 with those of 1892-93, the total tonnage shows an increase of 15 per cent., while the increase in the tollage is 10 per cent. The reason of the tollage not keeping pace with the increase in tonnage is probably to be found in the reduced rates of through-tickets from the Orissa Coast Canal to Gewankhali. The object of this reduction was, as explained in paragraph 125 following, to encourage boats to use the Hijili Tidal Canal in their journeys to Calcutta, instead of going down the Russulpore river and up the Hooghly. It is too early yet to pass judgment on the effects of the change.

68. The miscellaneous receipts for the last five years are shown below:—

1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
Rs.	Rs.	Rs.	Rs.	Rs.
899	567	1,282	987	1,436

RAINFALL.

FLOODS.

NAVIGATION.

MISCELLANEOUS RECEIPTS.

71. An opportunity was taken by the Executive Engineer during the closure of the canal to make some experiments on the loss due to leakage, evaporation, and percolation from the impounded water. From the results obtained and from the observations of the daily loss during January, February, and April, when the canal was working, the Superintending Engineer shows that the loss of water due to leakage through the lock gates is five times greater than the loss due to lockage alone. This heavy leakage is through the old iron lock-gates. The efforts already made to make them staunch have not been very successful, and it will be a matter for consideration whether they should not be replaced by wooden gates similar to those employed on the Coast Canal locks.

The Rasalpur river has deepened considerably, owing to the water brought into it by the recently remodelled Baliaghyo drain. This is very encouraging, as also is the improvement in the Sadar khal effected by the dredging of the Kalaboria khal.

SONE CANALS.

72. The Capital, Interest and Revenue accounts of these canals are given below:—

I.—CAPITAL ACCOUNT.

HEADS OF ACCOUNT.				Outlay during 1894-95.	Outlay to end of 1894-95.
1				2	3
DIRECT CHARGES.				Rs.	Rs.
I.—Works	...	...	...	24,191	1,87,45,822
II.—Establishment	...	...	...	5,551	52,02,867
III.—Tools and plant	...	...	...	30,043	22,59,099
IV.—Suspense accounts	...	...	...	(—)20,905	1,08,448
Loss by exchange	...	...	...	.....	52,240
Total				38,880	2,83,68,476
V.—Less—Receipts on capital account	...	...	...	.....	3,74,445
Net total direct charges				38,880	2,59,94,031
INDIRECT CHARGES.					
Capitalization of abatement of land revenue	...	...	...	777	37,911
Leave and pension allowances	...	...	...	.....	8,77,657
Total indirect charges				777	9,15,568

No important works were carried out during the year chargeable to the Capital Account of the Sone Project. Good progress was made on the Mohunpur drainage scheme which has for its object, the draining of the land adjacent to the Jamrore Subdivisional head-quarters, and some permanent outlets were constructed on the Chowas Branch Canal. These works were charged to Minor Works and Navigation. Under Major Works, the work of the year was confined to some outlets on distributaries and some small siphons.

II.—INTEREST ACCOUNT.

		Rs.
Interest charges to end of 1893-94	...	1,86,53,306
Ditto for 1894-95	...	10,38,984
Total	...	1,96,92,290

REVENUE
ACCOUNT.

III.—REVENUE ACCOUNT (ACTUALS).

PARTICULARS.	EXPENDITURE—		PARTICULARS.	RECEIPTS—	
	During 1893-94.	During 1894-95.		During 1893-94.	During 1894-95.
1	2	3	4	5	6
DIRECT CHARGES.	Rs.	Rs.		Rs.	Rs.
I.—Works, maintenance and repairs	5,22,766	4,90,471	Water-rates ...	8,42,309	7,43,243
II.—Revenue management ...	1,64,123	1,61,251	Navigation ...	60,025	58,893
			Miscellaneous ...	29,578	35,620
Total direct charges	6,86,889	6,51,722	Total ...	9,31,912	8,37,761
Indirect Charges ...	54,087	55,017	Less—Refunds of revenue.	6,237	2,927
Total Working Expenses	7,40,976	7,06,739			
Profit, actual ...	1,84,699	1,28,095			
Total ...	9,25,675	8,34,834	Total Receipts ...	9,25,675	8,34,834

NOTE.—The details by heads of expenditure for the year 1894-95 and nine preceding years will be found in the table given in paragraph 74 following.

EARNINGS.

73. The following statement compares the "Earnings" with the actual outlay for the years 1893-94 and 1894-95:—

			1893-94.	1894-95.
Earnings—			Rs.	Rs.
Irrigation	...	...	7,39,959	6,50,332
Navigation	...	...	69,905	58,850
Miscellaneous	...	...	29,578	35,620
Total	...	...	8,29,442	7,50,802
Deduct refunds of revenue	...	...	6,237	2,927
Net earnings	...	...	8,23,205	7,47,875
Outlay	...	...	7,40,976	7,06,739
Earned profit	...	...	82,229	41,136

The irrigation earnings are the net assessments for the irrigation of the year, after deducting refunds, or in other words, the water-rate value of the irrigation done during the year. A portion of these assessments, viz., those for rabi irrigation are not legally payable until the 5th April. Consequently the total irrigation earnings during the year will not be the same as the total amount of water-rates falling due during the year. Thus the Rs. 6,50,332 shown above as the irrigation earnings of 1894-95, includes a sum of Rs. 16,636 for rabi irrigated during the year, which was not payable until 1895-96, and excludes a sum of Rs. 45,866 which fell due during the year for rabi irrigation of 1893-94. The navigation earnings are the assessed

tollage for the year, together with the actual miscellaneous receipts charged to navigation. The miscellaneous earnings are perforce the actual realisations under that head.

74. The following is a statement of the revenue account and working expenses of the canals for ten years:—

FINANCIAL
RESULTS.

	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6	7	8	9	10	11
RECEIPTS.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Water-rates	9,78,328	8,96,461	5,18,886	7,69,556	8,16,304	6,44,714	6,11,780	9,68,070	8,62,899	7,43,263
Navigation	46,243	44,354	65,904	57,829	57,759	55,929	66,517	50,089	60,833	58,808
Miscellaneous	38,080	37,714	95,469	95,504	23,349	30,128	31,427	29,214	29,478	30,023
Total	10,62,651	9,78,529	6,80,259	8,23,889	8,97,412	7,30,751	6,10,094	10,47,373	9,53,210	8,32,094
Less—Refunds of revenue	10,657	15,737	15,331	13,011	16,536	7,264	4,020	3,792	0,237	2,227
Total Receipts	10,51,994	9,62,792	6,64,928	8,10,878	8,80,876	7,23,487	6,06,074	10,43,581	9,52,973	8,29,867
WORKING EXPENSES.										
DIRECT CHARGES.										
<i>I.—Works, maintenance and repairs.</i>										
Works (extensions and improvements) ... ..	...	...	8,539	10,426	4,712	5,203	8,812	6,641	7,410	10,372
Repairs, including compensation	2,83,315	3,06,745	3,08,448	3,29,132	2,92,892	2,78,831	2,59,852	2,90,879	2,65,918	2,39,327
Establishment, including direction and accounts	65,163	71,081	2,10,227	1,97,977	1,52,087	1,54,896	1,30,196	2,08,816	2,23,213	2,31,729
Tools and plant	22,451	27,686	22,221	33,990	33,480	24,827	25,843	26,031	27,206	27,543
Total	3,70,929	4,07,522	5,63,426	5,70,525	4,19,831	4,93,516	4,81,483	5,15,901	5,23,766	6,00,471
<i>II.—Revenue management.</i>										
Irrigation establishment	1,46,028	1,40,800	1,80,243	1,63,249	1,48,823	1,45,598	1,53,213	1,50,300	1,49,738	1,40,086
Navigation ditto	14,756	14,335	14,285	14,145	14,800	14,346	14,264	14,430	14,391	14,291
Total	1,60,784	1,55,135	1,94,528	1,77,394	1,63,623	1,59,944	1,67,477	1,64,730	1,64,129	1,54,377
Total—direct charges	5,31,713	5,62,657	7,57,954	7,47,919	5,83,454	6,53,460	6,48,960	6,80,631	6,87,895	7,54,848
INDIRECT CHARGES.										
Capitalisation of abatement of land revenue ... ..	...	...	...	...	...	...	...	...	...	...
Leave and pension allowances	21,439	22,007	60,269	51,813	48,971	48,813	49,780	52,556	54,037	55,017
Total—indirect charges	21,439	22,007	60,269	51,813	48,971	48,813	49,780	52,556	54,037	55,017
Total—working expenses	5,73,152	5,84,664	8,18,223	8,00,000	6,32,425	7,02,273	6,98,740	7,33,187	7,41,932	8,09,865
Net revenue	4,78,842	3,78,128	(—)1,53,325	38,959	2,48,451	70,014	2,07,134	3,62,944	3,11,038	2,25,022

The decrease in the irrigation receipts was due to the seasons being very favourable for the crops, and consequently unfavourable to irrigation. The decrease in the working expenses is satisfactory. It was due in a great measure to the economy exercised in silt clearing. The increase under Extensions and Improvements was chiefly on account of the construction of a surface supply inlet at Dehri for the purpose of testing certain theories of Mr. Buckley concerning the action of the head sluice in scouring heavy sand from the bed of the river. The Eastern Main Canal and Patna Canal were closed from the 21st April to the 19th June, and the Western Main Canal from 14th to the 25th May, for repairs.

The increase of 290 $\frac{1}{2}$ miles to the length of village channels is very satisfactory, as is the continued increase in the number of permanent outlets.

77. The following is a statement of rainfall in the vicinity of the Sone RAINFALL.
Canals for the last five years:—

		AVERAGE OF 23 STATIONS.				
		1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1		2	3	4	5	6
		Inches.	Inches.	Inches.	Inches.	Inches.
Kharif season	{ August ...	14.47	9.11	15.47	7.52	14.81
	{ September...	6.58	4.09	4.27	10.80	9.50
	{ October ...	0.99	1.17	0.33	4.48	8.06
	Total ...	22.04	14.37	20.07	22.24	32.37
Rabi season	{ November...	.....	.....	0.03	0.32	2.08
	{ December ..	0.01	.....	.....	.....	0.03
	{ January ...	1.69	0.18	0.01	0.09	0.56
	{ February ...	0.39	1.03	2.07	0.93	0.61
	Total ...	2.09	1.16	2.71	1.34	3.26
Whole year ...		52.60	29.12	38.36	47.06	58.23

The Superintending Engineer writes—

"The rainfall in the kharif season was extremely heavy, being more than 50 per cent. in excess of the average of the previous eight years. In the Buxar Division it is believed that the rainfall was the largest on record since the canals were opened."

The "Hathia Naichhatra," i.e., the period between the 25th September and the 8th or 9th October, when in Bihar it is generally considered necessary to water the rice crop, was one of abnormally favourable rainfall in two consecutive years, "a fact which has greatly influenced the area leased under long term leases."

Regarding the rainfall in the rabi season the Superintending Engineer says—

"The copious rainfall in October, together with the heavy rainfall of the rabi season itself—which was more than double the average—so far moistened the soil that irrigation in most cases was entirely unnecessary for the rabi crop."

78. There was no high flood in the Sone during the year. The highest FLOODS.
level at the Daburi weir was practically the same as the highest level in 1893-94, as is shown in the statement below. The R. L. of the crest of the weir is 334.00:—

RIVER SONE.

LOCALITY.	1894-95—13th August 1894.		1893-94—25th September 1893.		Highest known 1876-77—7th July 1876.	
	Above weir.	Below weir.	Above weir.	Below weir.	Above weir.	Below weir.
1	2	3	4	5	6	7
	R. L.	R. L.	R. L.	R. L.	R. L.	R. L.
Daburi ...	338.35	336.70	338.30	336.50	342.10	341.00
Baran ...	339.50	338.10	340.00	337.70	343.50	342.70

The highest flood readings recorded in this circle for the river Ganges in 1894-95 were—

RIVER GANGES.

Locality.	Date.	Reading.	Highest known since 1875.	
			Date.	Reading.
1	2	3	4	5
		R. L.		R. L.
Buxar	22nd August 1894 ...	190.05	6th August 1875 ...	200.71
Digah	23rd " " ...	167.68	14th " 1879 ..	169.20
Hajipur, confluence of rivers Ganges and Gandak ...	24th " " ...	184.50	15th " " ...	160.20

The Executive Engineer of the Buxar Division remarks that the flood in the Ganges was remarkable for its duration. He states that it was above 197.00 from the 18th to the 28th August.

79. The irrigation for ten years, together with the rainfall over 16 stations actually situated on the canal irrigated area, is shown below:—

YEAR.	Kharif.	Rabi.	Perennial hot weather.	Total.	Rainfall.
1	2	3	4	5	6
	Acres.	Acres.	Acres.	Acres.	Inches.
1885-86 ...	217,072	87,936	27,562	332,570	44.52
1886-87 ...	177,510	60,639	30,055	268,204	58.84
1887-88 ...	220,428	69,945	25,007	315,380	40.18
1888-89 ...	238,895	100,142	16,872	355,909	45.43
1889-90 ...	230,741	55,613	18,928	305,282	49.65
1890-91 ...	211,726	51,316	17,970	281,014	62.28
1891-92 ...	248,819	210,907	14,997	474,723	26.82
1892-93 ...	274,839	126,195	9,727*	410,761	37.89
1893-94 ...	280,528	66,458	19,790*	366,776	46.62
1894-95 ...	258,361	41,064	17,109*	317,134	59.65

* These figures are for hot weather crops only. Those of the years previous to 1892-93 represent both sugarcane and hot weather crops.

The total area irrigated was 49,642 acres less than that in the previous year.

80. The following statement gives the areas of each crop irrigated under annual and five-year leases from 1889-90 to 1891-92, and under season and long-term (seven and three-year) leases in 1892-93, 1893-94 and 1894-95 under the new rules:—

Crop.		1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1		2	3	4	5	6	7
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Kharif	{ Five-year leases...	174,780	189,227	200,716	Long-term leases	235,637	254,515
	{ Annual leases ...	41,917	22,499	48,108	Season leases	39,202	26,013
	Total ...	216,697	211,726	248,819		274,839	280,528
Rabi	{ Five-year leases...	31,128	20,761	20,274	Long-term leases	36,329	37,231
	{ Annual leases ...	20,336	20,632	177,308	Season leases	89,866	29,227
	Total ...	51,464	41,393	197,582		126,195	66,458
Sugarcane	{ Five-year leases...	18,800	13,568	13,801			
	{ Annual leases ...	5,004	4,402	1,196			
	Total ...	23,804	17,970	14,997			
Hot-weather		13,757	9,925	13,325	Season leases	9,727	19,790
GRAND TOTAL		305,282	281,014	474,723		410,761	366,776
Total five-year leases		224,268	223,556	234,791	Total long-term leases	271,966	291,746
" annual leases		81,014	57,458	239,932	" season leases	138,795	75,030
							263,990
							53,144

* Under the new rules for the Bone Canals there are no separate leases for sugarcane. They are included in each season lease as explained above.

The total areas irrigated under each form of lease are abstracted as follows for convenient reference:—

		1892-93.	1893-94.	1894-95.
		Acres.	Acres.	Acres.
Area irrigated under long-term leases		271,966	291,746	263,990
" " " season leases		138,795	75,030	53,144
" " " by sale by volume		5,732	57	55
" " " without permit		3,707	681	1,176
Total		410,761	366,776	317,134

The very large falling off in the rabi irrigation was entirely on account of the heavy rainfall in the rabi season following the abnormal rain fall in October. The Superintending Engineer points out that the area irrigated in the rabi season was the smallest since 1882-83 when only 25,935 acres were irrigated. That year was distinguished by weather conditions similar to those of 1894-95, i.e., there was heavy rain in the rabi season following a very wet October.

Regarding the falling off in the long-term leases the Superintending Engineer writes—

"The area of leases which lapsed on the 31st March 1894 was unusually large. These leases were five-year ones, which had been made in 1889-90: in the two years previous to that one, and notably the year 1888-89, there had been deficient rainfall in the "Hathia." indeed in 1888-89 there was hardly any rainfall after the 11th of September until the end of the kharif season. These two bad years produced a large demand for long-term lease in 1889-90, which have expired, rather unfortunately in some respects, after a year of remarkably copious rainfall in the critical period of the "Hathia," and the people have declined to renew many of the leases which have expired."

The Superintending Engineer writes—

"The area under long-term leases has increased steadily from 1888 up to 1893-94. This increase has now met with a check which will probably continue during 1895-96, for there was again most copious rainfall in October 1894. It must, however, be noticed that there is no check in the Eastern Sone Division, where the increase in long-term leases still continues."

81. The assessments for the unauthorized use of water and for wastage were slightly in excess of those of the previous year. The figures for the last five years are given below:—

	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
	Rs.	Rs.	Rs.	Rs.	Rs.
Unauthorized use of water...	2,734	13,861	14,649	4,760	6,910
Wastage of water ...	256	814	105	615	682

Under the rules now in force, irrigation effected without permit in the kharif season cannot be assessed if the water used is drawn from lands which are under lease.

82. The following statement shows the areas actually irrigated in each Division since the year 1892-93, when the new rules came into force:—

EASTERN SONS DIVISION.						ARRAH DIVISION.					BUXAR DIVISION.					TOTAL FOR ALL DIVISIONS.				
No.	Long-term lease.	SEASON LEASES.			Total.	Long-term lease.	SEASON LEASES.			Total.	Long-term lease.	SEASON LEASES.			Total.	Long-term lease.	SEASON LEASES.			Total.
		Kharif.	Rabi.	Hot-weather.			Kharif.	Rabi.	Hot-weather.			Kharif.	Rabi.	Hot-weather.			Kharif.	Rabi.	Hot-weather.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1890	64,091	7,573	4,983	...	76,661	154,314	14,835	28,995	4,594	180,309	88,951	10,464	46,633	5,063	150,751	371,000	30,808	86,606	9,737	410,771
1894	67,304	9,123	4,980	3,231	84,638	188,304	7,907	18,064	14,319	174,164	80,958	8,903	8,233	3,040	108,196	291,746	36,013	30,337	19,790	364,776
1895	64,627	7,309	3,371	3,460	80,867	130,200	7,789	8,318	18,068	138,446	60,035	9,484	740	1,363	77,339	238,940	34,006	11,480	17,108	317,134

83. The following table gives the duties obtained during the kharif and rabi seasons on the several canals for the last three years. But the year under review was one of such abundant rainfall that the figures are of little value, and the Superintending Engineer points out that the high duty of 140·22 acres, in the Buxar Division, during the kharif season, really means that a great portion of the area under lease took hardly any water at all.

Kharif.

	1894-95.		1893-94.		1892-93.	
	Acres.	Duty.	Acres.	Duty.	Acres.	Duty.
	2	3	4	5	6	7
Eastern Main Series	71,180	73·63	73,024	69·52	68,284	56·43
Arrah Canal System	119,525	91·04	124,072	83·63	132,471	70·46
Buxar Canal System	67,556	140·22	84,482	98·71	84,084	74·87
Western Main Series	187,181	102·79	208,504	96·80	208,565	71·52
Sone Canals	258,861	92·77	287,528	81·59	274,839	87·06

Rabi.

1	1894-95.		1893-94.		1892-93.	
	Acres.	Duty.	Acres.	Duty.	Acres.	Duty.
	2	3	4	5	6	7
Eastern Main Series	7,408	15.56	9,873	51.96	11,877	45.51
Arrah Canal System	25,161	69.51	35,879	71.74	69,174	76.73
Buxar Canal System	8,695	84.41	20,712	69.73	61,644	96.77
Western Main Series	34,458	71.93	56,585	70.99	114,818	86.33
Sone Canals	41,864	44.22	68,548	67.33	126,195	79.67

Some interesting observations were recorded during the year by the Executive Engineer of the Arrah Division on the loss of water in distributaries in the kharif season, and on the duty of water in hot-weather irrigation. It was found that the loss per cent. per mile of channel varied from 0.40 to 2.05, though on the Dumraon Branch Canal, when the average discharge was 178 cubic feet per second, the percentage of loss per mile was only 0.18. The experiments on the duty of water in the hot weather, i.e., from the 25th March to the 25th June, showed it to be about a third less than that obtained in the kharif season, viz., from 25th June to 25th October, and the depth of water required nearly six inches against four in the kharif season.

84. *Crop experiments.*—The results of the experiments made during the year to determine the yield of rice and wheat crops irrigated from the canals are given in the following tables:—

TABLE I.

Result of experiments on "good" rice crops irrigated with canal water for the year 1894-95.

DIVISION.	of Number experi- ments.	AVERAGE YIELD PER ACRE WEIGHED DRY.			
		Grain.		Straw.	
		Maunds.	Seers.	Maunds.	Seers.
1	2	3	4	5	6
Eastern Sone	35	33	28	75	28
Arrah	51	31	30	76	17
Buxar	39	30	21	73	28
Sone Circle average	125	31	27	75	14

N.B.—A good crop means a crop decidedly above the average crop in the village in which it was taken.

TABLE II.

Result of experiments on "average" rice crops irrigated with canal water.

Eastern Sone	22	25	1	53	10
Arrah	50	24	8	65	9
Buxar	56	23	28	51	32
Sone Circle average	128	24	5	57	13

N.B.—An "average" crop means a crop that was considered as an average crop in any village in which an experiment was made.

TABLE III.

Result of experiments on "good" wheat crops irrigated with canal water for the year 1894-95.

Division.	Staple.	Number of experiments made.	IRRIGATED WITH CANAL WATER.			
			AVERAGE YIELD PER ACRE.			
			Grain.		Straw.	
			Maunds.	Seers.	Maunds.	Seers.
1	2	3	4	5	6	7
Eastern Sone ...	Wheat ...	18	11	25	16	31
Arrah ...	" ...	20	14	16	19	20
Buxar ...	" ...	18	11	19	14	...
Sone Circle average ...	...	51	12	24	16	25

TABLE IV.

Result of experiments on "average" wheat crops irrigated with canal water for the year 1894-95.

Division.	Staple.	Number of experiments made.	IRRIGATED WITH CANAL WATER.			
			AVERAGE YIELD PER ACRE.			
			Grain.		Straw.	
			Maunds.	Seers.	Maunds.	Seers.
1	2	3	4	5	6	7
Eastern Sone ...	Wheat ...	7	8	6	13	26
Arrah ...	" ...	35	9	...	15	1
Buxar ...	" ...	20	8	9	12	6
Sone Circle average ...	...	62	8	27	13	38

85. The demands, collections, and balances of water-rates for the last five years are shown below:—

DEMANDS,
COLLECTIONS
AND BALANCES.

Year.	Amount outstanding at commencement of year.	Amount falling due for recovery during the year.	Total for recovery.	Cash realisation.	Remitted or written off.	Balance at the end of the year.
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1890-91 ...	2,81,789	6,29,124	9,10,905	6,44,718	21,460	2,44,728
1891-92 ...	2,44,728	6,93,685	9,38,413	8,11,750	15,220	1,11,443
1892-93 ...	1,11,443	9,50,793	10,62,178	9,59,472	14,914	87,790
1893-94 ...	87,790	8,53,161	9,40,951	8,31,261	8,832	1,01,858
1894-95 ...	1,01,858	6,86,905	7,88,763	7,43,863	4,081	40,809

As explained in paragraph 73, the assessments of the year will not correspond with the amount falling due in the year, on account of the rabi irrigation assessments not being legally payable until the 5th April. In other words the amount of assessments for rabi irrigated in one year does not fall due until the following year. This accounts for the difference between the Examiner's figures and those shown in the preceding statement. The Examiner regards

the assessments received during the year as being payable during the year, and his balance outstanding is based on those assessments. But a portion of the amount so shown is not in reality an outstanding balance at all, but is the amount falling due in the following year. Thus the Examiner gives the amount outstanding at the end of the year as Rs. 57,443 instead of Rs. 40,809 as shown above. The amount of Rs. 6,86,905 shown in this statement as falling due during the year, is arrived at as follows:—

	Rs.	Rs.
Examiner's "assessments of the year" ...	.....	6,57,054
Add—The assessments of the rabi of 1893-94 which were "received" in that year, but legally due in 1894-95 ...	45,866	Add 29,230
Deduct—The assessments of the rabi of 1894-95 which were "received" in that year, but legally due in 1895-96 ...	16,636	
		6,86,284
Deduct—Certain excess recoveries which are treated as "amounts falling due during the year" (see paragraph 29 of Deputy Collector's Revenue Report) ...	.. ..	621
Amount falling due during the year ...	.....	6,86,905

ARREARS.

86. In the following statement the Deputy Collector shows the extent to which the arrears as well as current demand have been worked off:—

	Demand of 1894-95 consisting of—	Collected or remitted in 1894-95.	Percentage of demand adjusted.	Unadjusted balance at close of year.
1	2	3	4	5
	Rs.	Rs.		Rs.
Arrears of 1893-98 ...	2,960	3,141	79.2	819
Do. of 1893-94 ...	97,897	89,077	90.9	8,920
Total arrears outstanding on 1st April 1894 ...	1,01,857	92,218	90.5	9,839
Current demand for 1894-95 ...	6,86,905	6,55,737	95.4	31,168
Total ...	7,88,762	7,47,955	94.6	40,807

These figures are highly satisfactory. Not only are the arrears lower than they have ever been before on the Sone Canals, but the percentage of collection is higher than in any previous year.

COLLECTIONS.

87. The following statement gives the collections in each district:—

DISTRICT.	DEMAND.			ADJUSTMENTS.				Balance on 31st March 1895.	Percentage of collection column 4 column 9
	Arrears on 31st March 1894.	Current demand for 1894-95.	Total.	Collection.	Remission made by canal officers.	Written off as irrecoverable.	Total.		
1	2	3	4	5	6	7	8	9	10
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Bhababad ...	75,584	2,16,469	2,92,053	6,95,320	1,828	2,464	6,97,580	32,125	94.4
Patna ...	14,686	77,575	92,261	91,336	90	194	92,560	4,514	98.5
Gaya ...	6,707	90,939	97,646	65,297	171	7	93,475	4,170	98.7
Total ...	1,01,857	6,86,905	7,88,762	7,43,953	1,887	2,665	7,47,235	40,807	94.5

Besides the collections of Rs. 7,43,863 shown above, a further sum of Rs. 1,828 was credited to water-rate accounts as below:—

	Rs.
Surplus or excess recoveries ...	(—) 620
Process fees in certificate cases ...	2,432
Miscellaneous ...	16
Total ...	1,828

88. The sums remitted in 1893-94 and 1894-95 according to the figures given by the Examiner of Accounts, were —

	1893-94.	1894-95.
	Rs.	Rs.
By Canal officers	1,606	1,237
By Civil do.	3,226	2,854
Total	4,832	4,091

According to the figures supplied by the Superintending Engineer the remissions were —

	1893-94.	1894-95.
	Rs.	Rs.
Written off by Civil officers as irrecoverable ...	3,226	2,865
Remissions granted by Executive Engineers ...	2,180	2,640
Extraordinary remissions by Superintending Engineers ...	...	169
Remitted on revised and cancelled khatianis ...	15,251	8,370
	20,657	13,864

The continued reduction in the amounts written off as irrecoverable is very satisfactory. The Superintending Engineer thinks that the system of embezzling money under the guise of its being irrecoverable, of which a notable case has lately been brought to light, was formerly more common than has been supposed, and that the reduction of fraud brought about by increased vigilance and supervision is largely accountable for the decrease in the amounts shown as irrecoverable.

Of the Rs. 2,640 remitted by Executive Engineers, Rs. 1,403 were in reality refunds on account of amounts which had been recovered by the Deputy Collector before the remission statements had been received by him.

The following table explains the remissions made by Executive Engineers:—

Class.	Causes.	Eastern Sone Division.	Arrah Division.	Buxar Division.	Total 1894-95.	Total 1893-94.
1	2	3	4	5	6	7
		Rs.	Rs.	Rs.	Rs.	Rs.
a	Charged by mistake for land cultivated by others ... ..	...	...	...	...	7
b	Excess measurement or errors in calculation	49	131	108	288	449
c	Lift charged as flow	5	3	...	8	43
d	Irrigation not denied, but remitted as not chargeable under the Act ...	...	12	61	73	381
e	Land not having been irrigated at all	1	35	967	1,003	610
f	Injury to crop due to insufficient supply ... ..	...	206	...	206	208
g	Land thrown temporarily out of cultivation (applicable to long leases only)	50	...	88	138	100
h	Failure of crop originally sown, Rule 82	8	58	654	720	174
i	Land appropriated for other purposes than cultivation	2	3	5	10	6
j	Double assessment, as when land assessed on a season lease is subsequently included in a long lease in the same year	126	16	53	194	202
	Total	241	463	1,936	2,640	2,180

The totals for the last five years are given below :—

1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
Rs.	Rs.	Rs.	Rs.	Rs.
6,555	3,304	4,620	2,180	2,610

The percentage of remissions on the gross demand was as follows in each Division :—

		Percentage of remissions to gross demand.	
		1893-94.	1894-95.
Eastern Sone Division	...	0.13	0.10
Arrah ditto	...	0.16	0.08
Buxar ditto	...	0.19	0.31

REVENUE
ESTABLISH-
MENT.

89. The following statement shows the expenditure on the revenue establishments for the last five years :—

PARTICULARS.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
<i>Establishment under Collector.</i>	Rs.	Rs.	Rs.	Rs.	Rs.
1. Permanent establishment, including travelling allowances.	31,253	40,997	58,538	55,308	54,311
2. Temporary establishment	687	4,752	3,070	2,908	3,217
3. Contingencies	2,398	2,724	2,063	4,274	5,696
4. Fees to tahsildars or establishment employed in lieu thereof.	24,499	16,868	2,580*	5,168	8,309
Fees to patwaris	3,968	2,206	1,152	368	114
<i>Establishment under Superintending and Executive Engineers.</i>					
Permanent and temporary establishment, including travelling allowances.	48,105	50,228	62,187	49,930	45,335
Contingencies	3,500	5,443	4,768	3,426	3,96
Water-regulation establishment	2,235	2,286	2,310	2,277	2,26
Headmen's fees	28,861	20,550	32,032	26,080	23,86
Total	1,45,528	1,52,113	1,59,300	1,49,732	1,46,960
Collections of water-rates and miscellaneous revenue by the Canal Revenue Department.	6,47,839	8,15,858	9,71,202	8,45,177	7,45,691
Percentage	22.3	18.66	16.4	17.7	19.7

* Landholder's fees and contractor's percentage.

The decreased expenditure is due to the smaller irrigation of the year as compared with that of the previous year, and to the reduced collections.

COST PER
ACRE.

90. The total cost of the revenue establishment under each Executive Engineer per acre irrigated, is shown below :—

Division.	1894-95.			1893-94.	
	Revenue* establishment.	Area irrigated.	Cost per acre.	Cost per acre.	
1	2	3	4	5	
	Rs.	Acres.	A. r.	A. r.	
Eastern Sone	17,487	80,857	3 5	3 5	
Arrah	34,619	158,414	3 6	3 3	
Buxar	23,308	77,833	4 9	4 1	
Total Sone Canals	75,414	317,134	3 9	3 6	

* Includes proportion of water regulation establishment employed on the head works.

91. The following statement gives particulars of the disposal of objections to assessments. Claims for ordinary remission are distinguished from other complaints, such as petitions alleging damage from the canals, complaints against individuals, and other miscellaneous claims. The totals are compared with those of the two previous years.

Division.	CLAIMS FOR ORDINARY REMISSION.				OTHER COMPLAINTS.			Total complaints received during the year, excluding those made last from previous year.	Pending.
	Received during the year and pending from previous year.	Disposed of.		Pending.	Received during the year and pending from last year.	Disposed of.	Pending.		
		Remission allowed.	Remission refused.						
1	2	3	4	5	6	7	8	9	10
Bandah Boro	No. 314	No. 321	No. 168	No. 31	No. 35	No. 30	No. 5	No. 229	No. 16
Arrah	1,346	59	93	43	30	30	1	1,505	43
Buxar	1,081	428	641	14	40	67	2	1,558	28
Total	2,641	888	1,798	87	104	127	8	2,897	106

The Superintending Engineer writes:—

"The large reduction in complaints is probably due to the bumper season; every one was well off and satisfied. About one-third of the claims for remission were admitted to be good; this is the same proportion as in previous years. Out of the 2,690 cases dealt with during the year, there were 27 only in which the complainants appealed to the Collector of the district against the orders of the Canal officer; about one-third of the appeals were allowed and two-thirds were rejected."

92. The following statement shows the number of appeals to the Collectors of districts against Executive Engineers' decisions, and how they were disposed of:—

Division.	NUMBER OF APPEALS—		Appeals allowed.	Appeals discharged.	Pending.
	Pending from last year.	Instituted during the year.			
1	2	3	4	5	6
Eastern Boro	No. ...	No. ...	No. ...	No. ...	No. ...
Arrah	2	11	1	9	3
Buxar	1	16	5	9	3
Total	3	27	6	18	...

93. Twenty-eight cases were tried by Executive Engineers vested with Magisterial powers under the Act. Forty-eight persons accused were convicted and twenty-one discharged. The fines imposed amounted to Rs. 475, and the number of days' imprisonment aggregated sixty-one.

94. The Special Deputy Collector in charge of the collections continues to deal with the certificates required in realizing water-rates.

SUPPLEMENT TO THE CALCUTTA GAZETTE, DECEMBER 15, 1895. 2965

COMPARISON OF TRAFFIC.

	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
Number of miles open ... No.	218½	218½	218½	218½	218½
Toll collections ... Rs.	50,704	57,292	50,023	50,433	49,330
Collections per mile ... "	239	262	229	230	225
Boats, including empties ... No.	8,644	8,645	8,710	8,664	8,119
Tonnage of boats ... Tons.	114,996	129,147	97,541	98,531	85,673
Estimated value of cargo, including rafts ... Rs.	65,25,714	70,06,595	57,82,365	61,10,238	49,20,434

96. The contract for the transport service was again given to Messrs. Radford & Co., the rates being increased to Rs. 750 per month for the hire of steamers and Rs. 1,250 for compounded tollage. The corresponding amounts of the former contract were Rs. 600 and Rs. 500, respectively. The ordinary repairs of the steamers, which belong to Government, are executed by the lessees.

The following table shows the extent of the steamer traffic:—

PARTICULARS.	Patna Canal.	Arrah Canal.	Buxar Canal.	Total.	Total for 1893-94.
1	2	3	4	5	6
Passengers carried { Up ... No.	4,848	12,742	7,924	25,514	26,239
Down ... "	4,617	12,966	7,083	25,566	25,626
Cargo carried { Up ... Tons.	1,177	361	372	1,910	1,515
Down ... "	955	658	585	2,049	2,114

On the Patna Canal the steamer makes one trip in a week each w.y. On the Arrah and Buxar Canals there is a service twice a week. Rs. 7,800 was realized during the year for the hire of steamers, and Rs. 1,750 for the hire of accommodation boats and mud punts. The four cargo boats belonging to Government which used to contribute to these receipts were sold in 1893.

97. The details of the miscellaneous receipts for the last five years are given below:—

PARTICULARS.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Sale of water ...	393	1,036	805	720	667
Plantations ...	354	995	851	1,164	1,671
Other canal produce ...	1,815	712	957	1,851	2,793
Water-power ...	1,158	1,049	1,188	978	1,715
Rent of buildings ...	8,161	8,827	5,807	8,521	8,237
Fines ...	40	"	282	20	436
Miscellaneous { Rent of lands ...	8,114	9,020	8,241	9,014	11,773
Fisheries ...	411	429	523	617	582
Cost of process ...	2,937	3,710	2,955	2,528	2,432
Sale of old materials ...	121	82	85	159	11
Other items ...	2,610	5,323	3,519	3,733	4,054
Total ...	26,118	31,827	29,314	29,678	35,120

101. The following table gives particulars of dredging during the year, compared with the results of the two previous years:—

SILT-CLEARING
AND
DREDGING.

CANALS.	1892-93.			1893-94.			1894-95.		
	Quantity dredged.	Cost, including removal over spoil bank, or discharge into river.	Rate per 1,000 cubic feet.	Quantity dredged.	Cost, including removal over spoil bank, or discharge into river.	Rate per 1,000 cubic feet.	Quantity dredged.	Cost, including removal over spoil bank, or discharge into river.	Rate per 1,000 cubic feet.
1	2	3	4	5	6	7	8	9	10
	C. ft.	Rs.	Rs. A. P.	C. ft.	Rs.	Rs. A. P.	C. ft.	Rs.	Rs. A. P.
Eastern Main and Patna ...	1,842,959	10,483	5 13 0	2,180,403	12,923	5 14 9	1,257,588	4,541	5 4 8
Western Main (1—9 miles) ...	6,725,424	40,368	6 0 0	6,193,980	40,045	6 3 11	4,372,874	26,211	6 3 1
River Sone ...	3,376,392	7,309	2 2 7	2,623,947	5,699	2 2 7	3,704,946	6,593	1 12 2
Head Lock ...	123,939	506	4 1 2	67,112	274	5 9 2	65,195	948	3 12 6
Total ...	12,068,714	58,966	4 6 4	8,795,039	40,118	5 3 10	8,043,915	32,990	4 1 7

The Superintending Engineer gives the following explanation of the decrease in the amount dredged from the Eastern Main and Patna Canals:—

"The decrease in the quantity of dredging was partly due to a small decrease in deposit, but mainly to the fact that it was decided not to dredge as much silt as usual from the head of the canal, but to reduce the bed width of the canal to 100 feet in the first 3th mile, where it is 160 feet base nominally. The dredging at the head of the canal was stopped on the 28th October, a much earlier date than usual."

There was a large increase in the amount dredged from the bed of the Sone river in order to keep a channel open from Dehri to Baran. It is due to the river silting up more and more every year. Surveys are now being made with the object of finding a channel, not direct across, which may be opened out at a cheaper cost.

In the Arrah division, the amount dredged from the lock channels was only 99,345 cubic feet, at a cost of Rs. 483, against 561,402 cubic feet, costing Rs. 2,625 in the previous year. The reduction was effected by cutting the channels to the smallest width sufficient for the traffic and not to the full width as in previous years. From the Buxar Canal, 452,758 cubic feet were excavated.

The rates given above include the cost of lifting the silt into barges and of carrying it either over the spoil banks or into the river.

102. The cost of lifting the silt on to the barges, or dredging proper was as shown below.—

COST OF
DREDGING
PROPER.

	1892-93.			1893-94.			1894-95.		
	Quantity dredged.	Cost of dredging.	Rate per 1,000 cubic feet.	Quantity dredged.	Cost of dredging.	Rate per 1,000 cubic feet.	Quantity dredged.	Cost of dredging.	Rate per 1,000 cubic feet.
1	2	3	4	5	6	7	8	9	10
	C. ft.	Rs.	Rs. A. P.	C. ft.	Rs.	Rs. A. P.	C. ft.	Rs.	Rs. A. P.
Eastern Main and Patna Canals	1,842,959	2,603	1 6 7	2,180,403	3,117	1 6 10	1,257,588	2,269	1 13 9
Western Main Canal	6,725,424	12,483	1 13 8	6,193,980	12,336	1 13 2	4,372,874	8,055	1 13 10
River Sone	3,376,392	6,727	2 15 10	2,623,947	5,100	1 15 1	3,704,946	6,265	1 11 1
Head Lock	123,939	546	3 5 5	67,112	222	3 5 0	65,195	198	3 0 6
Total	12,068,714	22,161	2 2 4	10,975,412	20,774	2 2 0	9,800,601	16,778	2 1 4

The total cost per 1000 cubic feet of removing the silt was Rs. 5-4-6 as compared with Rs. 5-14-9 in 1893-94.

REPAIRS TO
DREDGERS.

103. The expenditure on repairs to dredgers is shown below for the last three years.

	1892-93.	1893-94.	1894-95.
1	2	3	4
	Rs.	Rs.	Rs.
12 Fouracres' dredgers	6,752	6,467	6,036
2 Bruce's ditto	546	627	362
2 English ditto	3,081	3,575	2,724
Mud punts	3,076	3,075	2,508
Total	13,455	13,744	11,630

COST OF
"LIFTING"
SILT.

104. The real cost of "lifting" the silt on to mud punts in 1894-95 was:—

DREDGERS	Working expenses per 1,000 cubic feet.	Interest and repairs per 1,000 cubic feet.	Interest and repairs of mud punts per 1,000 cubic feet.	Total
1	2	3	4	5
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Fouracres' dredgers	1 13 1	1 14 4	1 9 6	5 4 11
Bruce's do.	1 10 11	2 0 8	1 9 6	5 5 1
English or ladder dredgers	1 13 10	2 14 3	1 9 6	6 5 7

The Superintending Engineer gives also the following statistics of the gross cost of dredging done on the Sone Canals, but he points out that the figures do not include provision for the depreciation of the plant.

PERIOD.	Gross quantity dredged in all divisions.	Cost of "lifting" and "discharging"	Repairs to dredging plant.	Total cash expenditure.	Interest on capital cost of plant.	Grand total.
1	2	3	4	5	6	7
	Cubic feet.	Rs.	Rs.	Rs.	Rs.	Rs.
Average of 6 years ending 31st March 1892.	10,979,293	62,826	13,576	76,401	19,609	96,010
Year 1889-90	10,878,752	67,893	13,660	71,081	19,609	90,670
" 1890-91	12,857,803	62,644	13,683	76,279	19,609	97,833
" 1891-92	10,867,078	61,488	13,933	75,963	19,609	94,873
" 1892-93	13,184,051	63,781	13,455	77,236	19,609	96,845
" 1893-94	13,515,482	69,374	13,744	83,118	19,609	1,02,727
Average of 6 years ending 31st March 1894.	12,060,753	62,925	14,087	77,012	19,609	96,631
Year 1894-95	9,482,461	40,264	11,630	51,894	24,029	75,993

SUPPLEMENT TO THE CALCUTTA GAZETTE, DECEMBER 18, 1895. 2969

105. The quantity of silt cleared by hand from main canals in the Eastern Sone Division and the cost, compared with the figures for the two previous years, is shown below:—

SILT CLEARED BY HAND.

	1891-92.			1893-94.			1894-95.		
	Quantity cleared by hand.	Cost.	Rate.	Quantity cleared by hand.	Cost.	Rate.	Quantity cleared by hand.	Cost.	Rate.
1	2	3	4	5	6	7	8	9	10
	C. feet.	Rs.	Rs. A. P.	C. feet.	Rs.	Rs. A. P.	C. feet.	Rs.	Rs. A. P.
Western Main and Patna Canals.	5,536,101	23,430	4 0 2	5,395,181	20,496	3 12 7	5,405,278	23,377	4 4 1

From the Western Main Canal 898,888 cubic feet of silt were excavated by hand, at a cost of Rs. 5,350, and the total quantity dredged was 4,272,874 cubic feet.

106. The following figures give the cost of weed-clearing for the last five years:—

WEED CLEARING.

DIVISION.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Eastern Sone ...	396	277	366	584	...
Arrah ...	1,299	2,470	466	1,391	638
Dehri Workshop ...	1,350	1,000	1,435	1,556	2,273
Buxar ...	1,505	2,206	1,583	1,134	179
Total ...	4,550	6,013	3,850	4,765	3,090

107. The following statement compares the cost of repairs to main canals and distributaries per mile during the year, with the cost in the two previous years.

MILEAGE RATES OF REPAIRS OF CANALS AND DISTRIBUTARIES.

CANAL.	Division.	1892-93.		1893-94.		1894-95.	
		Number of miles.	Cost per mile.	Number of miles.	Cost per mile.	Number of miles.	Cost per mile.
1	2	3	4	5	6	7	8
		No.	Rs.	No.	Rs.	No.	Rs.
Eastern Main Canal ...	Eastern Sone ...	7½	8,870	7½	8,988	7½	4,163
Western ditto ...	Dehri Workshops ...	9	5,841	9	5,880	9	4,978
Buxar Canal ...	Buxar ...	12½	467	12½	987	12½	181
Patna do. ...	Do. ...	45½	308	45½	838	45½	283
Arrah do. ...	Eastern Sone ...	79	388	79	823	79	281
Dumraon Branch ...	Arrah ...	55½	653	55½	441	55½	818
Behra ditto ...	Do. ...	40½	146	40½	170	40½	133
Chowra ditto ...	Do. ...	31	256	31	208	31	253
Gurrah, Chowbay Branch ...	Buxar ...	39½	150	39½	119	39½	98
Distributaries ...	Do. ...	39	107	38	98	38	89
	Arrah ...	469	63	469	63	70	35
	Buxar ...	388½	40	391½	23	408½	19
	Eastern Sone ...	350½	45	359½	30	359½	26

PLANTATIONS. 108. The number of trees, classified according to size, in the plantations in each division are shown below:—

DIVISIONS.	1894-95.				1893-94.				Increase.	Decrease.
	Trees over 12 feet in height.	Saplings between 4 and 12 feet.	Seedlings under 4 feet.	Total.	Trees over 12 feet in height.	Saplings between 4 and 12 feet.	Seedlings under 4 feet.	Total.		
1	2	3	4	5	6	7	8	9	10	11
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Eastern Sone	101,083	81,478	45,280	177,841	99,464	84,175	44,731	128,370	...	1,479
Arrah	60,087	24,334	31,043	115,464	81,428	33,878	30,841	146,147	1,365	...
Dehri Workshops	40,831	8,383	17,701	66,915	17,340	37,571	24,324	79,235	...	1,745
Buxar	33,077	8,190	14,007	55,274	35,574	8,187	10,194	53,955	...	1,008
Total	245,188	73,427	108,111	436,726	239,866	106,121	117,844	463,831	1,154	7,320
					Net decrease	...	...	...	...	5,306

The decrease is explained as due to the destruction of seedlings from various causes.

The receipts and expenditure of the year were as under:—

DIVISION.	Receipts.	Expenditure.
1	2	3
	Rs.	Rs.
Eastern Sone	585	445
Arrah	249	1,905
Dehri Workshops	845	2,400
Buxar	41	2,158
Total	1,720	6,908

MILLS.

109. A sum of Rs. 1,715 was realized during the year for the leasing of mills, the expenditure on their up-keep being Rs. 182.

Maulvi Syed Mahamed Nasiruddin was in charge of the Revenue Division during the year and did excellent work.

CALCUTTA AND EASTERN CANALS.

CAPITAL ACCOUNT.

110. The Capital and Revenue Accounts of these canals are given below:—

1.—CAPITAL ACCOUNT.

HEADS OF ACCOUNT.	Outlay during 1894-95.	Outlay to end of 1894-95.
1	2	3
	Rs.	Rs.
Direct charges	1,076	53,50,585
Less—Receipts on capital account	...	54,467
Total direct charges	1,076	52,96,118
Indirect charges	...	62,404

The expenditure charged to Capital Account during the year was confined to an adjustment of land charges by the Civil Department, in connection with the completion of the work on the improvement of the bad bend in the Jangulia river in the steamer route mentioned in last year's report.

SUPPLEMENT TO THE CALCUTTA GAZETTE, DECEMBER 18, 1895. 2971

2.—REVENUE ACCOUNT—(Actuals).

REVENUE
ACCOUNT.

	EXPENDITURE—			RECEIPTS—	
	During 1893-94.	During 1894-95.		During 1893-94.	During 1894-95.
1	2	3	4	5	6
DIRECT CHARGES.	Rs.	Rs.		Rs.	Rs.
I.—Works, Maintenance and Repairs	2,34,597	2,36,360	Navigation ...	4,07,695	4,30,769
II.—Revenue Management ...	39,344	39,553	Miscellaneous ...	13,129	12,688
Total direct charges	2,73,941	2,75,922	Total ...	4,20,824	4,43,457
Indirect charges ...	13,188	13,345	Less—Refunds of revenue ...	283	454
Total working expenses ...	2,87,129	2,89,267			
Profit ...	1,33,412	1,53,736			
Total ...	4,20,541	4,43,003	Net total receipts	4,20,541	4,43,003

NOTE.—The details by heads of expenditure for the year 1894-95 and nine preceding years will be found in the table given in paragraph 111 following.

111. The following is a statement of the receipts, working expenses, and net revenue of the canals for each of the last ten years:—

FINANCIAL
RESULTS.

	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
RECEIPTS.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Navigation ...	5,01,141	4,77,100	5,73,760	5,60,960	4,88,300	5,19,263	5,16,123	4,04,730	4,07,695	4,30,769	4,30,769	4,30,769	4,30,769
Miscellaneous ...	(—) 21,607	5,458	3,163	5,294	7,812	6,883	10,218	15,385	13,129	12,688	12,688	12,688	12,688
Total ...	4,79,534	4,82,558	5,76,923	5,66,254	4,96,112	5,26,146	5,26,341	4,20,115	4,20,824	4,43,457	4,43,457	4,43,457	4,43,457
Less—Refunds of revenue ...				10	79	61	123	131	283	454	454	454	454
Net total receipts	4,79,534	4,82,558	5,76,923	5,66,244	4,96,033	5,26,085	5,26,218	4,20,084	4,20,541	4,43,003	4,43,003	4,43,003	4,43,003
WORKING EXPENSES.													
DIRECT CHARGES.													
I.—Works, Maintenance, and Repairs.													
Works (extensions and improvements) ...	39,377	8,002	1,473	4,373	1,344	36,476	36,239	(—) 25,466	59	1,768	1,768	1,768	1,768
Maintenance and Repairs ...	67,092	1,09,493	1,04,827	1,63,636	1,50,315	1,40,571	1,72,637	1,06,233	1,06,943	1,54,576	1,54,576	1,54,576	1,54,576
Establishment, including direction and accounts ...	21,823	22,253	40,343	40,081	60,618	64,041	63,767	49,794	56,556	53,703	53,703	53,703	53,703
Tools and plant ...	18,348	8,317	18,153	21,654	13,376	20,601	12,341	13,207	14,745	13,068	13,068	13,068	13,068
Total ...	1,41,996	1,40,174	1,74,822	2,41,364	2,30,687	2,71,295	2,57,044	1,90,490	2,34,597	2,36,360	2,36,360	2,36,360	2,36,360
II.—Revenue Management.													
Navigation Establishment ...	44,761	43,714	35,250	37,054	30,261	39,343	41,339	32,250	30,344	32,553	32,553	32,553	32,553
Total direct charges ...	1,86,757	1,83,888	2,10,072	2,78,418	2,60,948	3,10,638	3,08,383	2,22,740	2,34,937	2,78,913	2,78,913	2,78,913	2,78,913
INDIRECT CHARGES.													
Capitalization of abatement of land revenue ...	9,463	9,376	12,344	11,853	12,105	14,334	14,046	12,530	13,129	12,688	12,688	12,688	12,688
Leave and pension allowances ...	9,463	9,376	12,344	11,853	12,105	14,334	14,046	12,530	13,129	12,688	12,688	12,688	12,688
Total indirect charges ...	18,926	18,752	24,688	23,706	24,210	28,668	28,092	25,060	26,258	25,376	25,376	25,376	25,376
Total working expenses ...	2,05,883	2,02,640	2,34,760	3,02,124	2,85,158	3,39,303	3,36,476	2,47,800	2,61,195	3,04,289	3,04,289	3,04,289	3,04,289
Net revenue ...	2,73,651	2,80,918	3,42,163	2,64,120	2,15,085	1,86,782	1,90,142	1,72,284	1,99,346	1,38,714	1,38,714	1,38,714	1,38,714

Under extensions and improvements a few useful works including a masonry latrine, a landing ghat, and a small masonry building for the Chitpur durwan, were undertaken, at an aggregate cost of Rs. 1,275. Under this head also was charged the cost of a survey amounting to Rs. 491, of the Bhaugore khal which was necessary for the preparation of the estimates and plans for its canalization.

The percentage of the net revenue on the capital outlay is shown below for ten years :—

Year.	CAPITAL OUTLAY (DIRECT AND INDIRECT).—		RECEIPTS AND WORKING EXPENSES.			Percentage of net revenue to capital outlay to end of year.
	During the year.	To end of the year.	Gross revenue.	Charges (direct and indirect).	Net revenue.	
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	
1885-86	(—)12,506	52,17,981	(a) 4,79,491	1,90,209	2,89,276	5.4
1886-87	5,298	52,23,274	4,83,634	1,92,264	2,91,390	5.5
1887-88	16,842	52,39,116	4,79,984	2,21,656	3,55,278	6.7
1888-89	49,369	52,88,486	5,76,126	2,93,801	2,81,824	5.3
1889-90	(—)281	52,88,204	4,95,543	2,79,138	2,16,410	4.1
1890-91	5,698	52,93,897	5,25,085	3,23,957	2,01,128	3.8
1891-92	(—)10,327	52,83,570	5,25,219	3,43,399	1,81,820	3.4
1892-93	74,379	53,57,849	4,80,114	2,52,177	2,27,937	4.2
1893-94	(—)103	53,57,446	4,20,541	3,87,129	1,33,412	2.5
1894-95	1,076	53,58,522	4,43,003	3,89,267	1,53,736	2.9

(a) is Rs. 33,185 smaller than it should be by reason of error of account.

The actual realizations of the year were Rs. 22,462 in excess of those of 1893-94, while the increase in the working expenses was only Rs. 2,138. The improvement, though not great, may, on the whole, be considered satisfactory. The supervisor of the canals, Mr. Cooksey, regards with disfavour the increase in the number of steamers and flats using the Circular Canal. The number which entered it during the year was 221 against only 45 in 1893-94. The Superintending Engineer states that the new measurement rules are undoubtedly favourable to flats. He writes :—

"Under existing rules, native boats pay tollage on the maundage carried; whereas, flats pay approximately on 65 maunds for every hundred maunds of cargo. As the number of flats is steadily increasing, it now becomes a question if a rule should not be at once introduced so as to ensure flats paying, like country boats, on the actual weight of cargo on board."

112. There was no change in the lengths of the canals open for navigation. They are as follows :—

	Miles.
Calcutta and new canals	10
Tolly's Nala with 20 miles of Kaorapeckhar khal	37
Total Calcutta Canals	47
Eastern Canals { Inner boat route	189
Outer ditto	127
Steamer route	350
Total Calcutta and Eastern Canals	713

113. The statement below shows the collections made during the year by the Collector and Supervisor of the Canals and by the Executive Engineer, respectively:—

CANALS.	Number of boats and rafts.	COLLECTIONS BY COLLECTOR AND SUPERVISOR.						COLLECTIONS BY EXECUTIVE ENGINEER.	GRAND TOTAL, ORIGIN.
		Tolls from boats and rafts.	Demurrage.	Ferry tolls.	Tolls from steamers and flats.	Rents of buildings, lands, and other miscellaneous receipts.	Total.	Rents of buildings, lands, and other miscellaneous receipts.	
1	2	3	4	5	6	7	8	9	10
	No.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Calcutta and Eastern Canals.	71,126	3,00,527	2,104	3,770	5,493	5,666	8,27,100	7,833	4,20,824
Tolly's Nala	74,393	63,232	1,377	1,055	...	202	83,780	...	...
Total 1893-94	145,519	4,12,758	3,481	4,825	5,493	5,868	4,20,880	7,833	4,28,713
Total 1894-95	146,511	3,89,489	2,583	4,881	5,493	5,708	4,12,066	7,833	4,20,904

The tolls from boats and rafts, which constitute the chief source of revenue from these canals, amounted during the year to Rs. 4,12,758 against Rs. 3,89,489 of the previous year. This increase was due in a great measure to the large rice and jute crops in Eastern Bengal, which stimulated the traffic in these products. There was also a very substantial increase in the coal traffic, while in salt, though there was an increase in the tonnage, the tollage, was Rs. 1,503 less than last year. This was due to the larger use of flats which as stated in paragraph 111 pay tolls on only $\frac{2}{3}$ of their actual cargo, and also to a larger quantity being sent in to the canal and there unloaded, for which a reduced rate is charged.

In kerosine oil there was a large decrease, chiefly due to the diversion of the traffic to the Eastern Bengal Railway. The Superintending Engineer considers that a great portion of the jute traffic also, which was formerly borne by the canal, has been diverted to the Railway.

114. The following table classifies the boats which used the canals during the last two years:—

YEAR.	Canal.	NUMBER AND CLASS OF BOATS—					
		Up to 100 maunds.	Between 100 and 1,000 maunds.	Between 1,000 and 2,500 maunds.	Between 2,500 and 5,000 maunds.	Over 5,000 maunds.	Total.
1	2	3	4	5	6	7	8
1893-94	Calcutta and Eastern Canals.	40,903	25,460	6,778	775	24	71,063
	Tolly's Nala	23,018	19,657	825	2	...	23,018
	Total 1893-94	63,921	45,117	7,603	777	24	1,07,564
1894-95	Calcutta and Eastern Canals.	41,469	27,278	5,494	184	37	74,462
	Tolly's Nala	24,087	12,651	195	...	...	24,087
	Total 1894-95	65,556	39,929	5,689	184	37	100,235

In the total number of boats which entered the canals during the year, there was an increase of 1,592. No comparison can be made of the numbers of boats of different classes in the two years, owing to the change in the system of measurement. In 1893-94 some boats were measured under the old, some under the new, system.

There was a decrease in the number of small boats which entered Tolly's Nala from Koarapookhar and paid tolls at Russa, from Rs. 37,710 in 1893-94 to Rs. 35,963 in 1894-95. Including these boats the total number was 145,201 against 145,393 in the previous year.

The tonnage of boats as determined by canal measurement, and the estimated weight and value of the cargo* are shown in the comparative statement below:—

Year.	Canal.	Number of boats, excluding rafts.*	Tonnage of boats by canal measurement.	Weight of cargo in tons.	Value of cargo.	Tollage, including demurrage.	Percentage of toll on value of cargo.
1	2	3	4	5	6	7	8
1893-94 ...	Circular Canal	No. 71,062	Tons. 851,462	Tons. 534,913	Rs. 4,52,20,749	Rs. 3,16,794	
	Tolly's Nala ...	74,331	339,261	187,493	1,26,50,485	84,268	
	Total 1893-94 ...	145,393	1,190,723	722,406	5,78,77,234	4,01,062	0.69
1894-95 ...	Circular Canal	72,462	768,964	560,601	4,69,91,110	3,31,631	
	Tolly's Nala ...	72,759	256,777	199,261	1,40,13,278	93,490	
	Total 1894-95 ...	145,221	1,025,741	759,862	6,10,04,388	4,25,021	0.69

* Includes passenger and empty boats.

The decrease of tonnage is only apparent and is due to the new system of measurement introduced in 1893-94.

The increase in the weight and value of the cargo is attributed to the increase in the rice and jute traffic.

MISSING
TICKETS.

115. The number of missing tickets in each of the last ten years is shown below:—

YEAR.	No.	YEAR.	No.
1885-86 ...	653	1890-91 ...	212
1886-87 ...	542	1891-92 ...	210
1887-88 ...	677	1892-93 ...	169
1888-89 ...	320	1893-94 ...	252
1889-90 ...	238	1894-95 ...	170

The reduction from 252 in the previous year to 170 during the year under review is satisfactory.

REVENUE
ESTABLISH-
MENT.

116. The following statement compares the cost of the revenue establishment for each of the last five years:—

PARTICULARS.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
Salary and commission of Supervisor ...	Rs. 11,475	Rs. 11,863	Rs. 10,623	Rs. 9,780	Rs. 9,946
Salary of Canal Inspectors ...	5,172	5,916	5,913	4,545	4,752
Supervisor's office establishment ...	5,165	5,424	6,076	6,379	6,931
Canal police ...	2,061	2,049	2,059	2,058	2,007
Supervisor's steam-launch establishment ...	98				
Inspector's boat establishment ...	1,049	1,036	886	691	693
Dhappa water-boat establishment ...	168	168	168	168	168
Dafadars ...	271	450	828	747	818
Travelling allowance ...	22	71	71	118	49
Contingencies ...	1,261	3,125	2,108	1,877	1,624
Toll-collecting establishment ...	11,478†	12,127†	12,391	12,486†	12,232†
Total cost of establishment ...	39,210	41,369	39,035	39,344	39,405

† Includes salaries of darogas, clerks, cashiers, kootnavies, koyala, toll peons, and dinghi crews.

117. The miscellaneous receipts during the year amounted to Rs. 12,688 against Rs. 13,129 in 1893-94, showing a small decrease of Rs. 441. MISCELLANEOUS RECEIPTS.

118. The expenditure under this head was Rs. 1,766 against Rs. 53 in the previous year. EXTENSIONS AND IMPROVEMENTS.

119. The statement below shows the distribution of the maintenance charges under the several sub-heads as compared with the previous year:— MAINTENANCE AND REPAIRS.

CANALS.	Locks.	Masonry bridge.	Roads.	Buildings.	Plantations.	Dredging.	Channel and banks.	Torpaths.	Rural bridges.	Steam launches.	Miscellaneous.	Drainage.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Calcutta Canals, 1894-95 ...	3,081	3,721	16,256	1,903	481	24,636	5,396	601	437	5,627	13,357	82	74,088
Ditto, 1893-94 ...	3,452	3,781	16,164	2,473	521	14,916	7,370	1,214	560	3,896	11,923	162	66,497
Tolly's Nala, 1894-95 ...	...	2,234	327	523	...	...	464	420	195	...	87	...	4,149
Ditto, 1893-94 ...	...	3,719	241	4,462	...	...	490	425	206	...	13	...	9,635
Boatmen route, 1894-95 ...	...	...	...	...	...	...	...	...	...	...	2,094	...	2,094
Ditto, 1893-94 ...	...	...	...	...	...	...	...	...	...	...	2,095	...	2,095
Eastern Canals, 1894-95 ...	...	...	...	2,014	581	3,826	31,507	16,566	22,621	...	8,480	...	84,545
Ditto, 1893-94 ...	...	...	...	1,233	674	6,653	30,135	20,416	20,346	...	7,394	...	86,256
Total, 1894-95 ...	3,081	5,956	16,483	4,529	1,062	28,522	37,367	16,947	23,243	5,627	23,978	82	1,04,876
Total, 1893-94 ...	3,452	7,600	16,405	6,173	1,195	21,504	37,993	22,065	21,111	3,896	21,430	162	1,04,943

The increased expenditure on dredging was chiefly owing to two of the dredgers being worked during the whole year instead of for nine months only as in the previous year.

The variations under the other sub-heads are not such as to call for special comment.

120. The work done by the dredgers and the cost, including that of delivering the mud, are shown below:— DREDGING AND MUD DELIVERANCE.

	Quantity dredged.	Cost.	Rate per 1,000 cubic feet.
1	2	3	4
	C. feet.	Rs.	Rs. A. P.
Steam dredger, <i>Victoria</i> ...	812,400	7,979	9 12 11½
Fouracres' dredger ...	645,600	5,821	9 0 3
Marchant's hand dredger ...	339,000	3,825	11 4 6
Hydraulic dredger, <i>Clinker</i> ...	1,463,670	10,902	7 7 2

The actual rates of dredging, excluding the cost of delivering the mud, the cost of repairs, and the interest on original cost of dredging plant, were as follows:—

	Rs. A. P.
Steam dredger, <i>Victoria</i> ...	4 5 6
Fouracres' dredger ...	3 6 10
Marchant's hand dredger ...	0 11 5
Hydraulic dredger, <i>Clinker</i> ...	2 15 6

Per 1,000 cubic feet.

The *Victoria* only worked for 139 days, the Fouracres' dredger for 254 days, the Marchant's dredger for 242 days and the *Clinker* for 229 days. The *Victoria*, Fouracres and *Clinker* are all steam dredgers.

PLANTATIONS.

121. The state of the plantation for the last two years is shown below:—

YEAR.	Trees over 12 feet.	Saplings from 4 to 12 feet.	Seedlings below 4 feet.	Total.
1	2	3	4	5
1893-94 ...	No. 2,496	No. 1,977	No. 720	No. 5,193
1894-95 ...	No. 2,986	No. 1,684	No. 601	No. 5,271

The cost incurred during the year was Rs. 1,062 against Rs. 1,195 in 1893-94.

STEAMER
ROUTE.

122. The expenditure on the steamer route and the receipts from steamers and flats using it are shown below for each of the last ten years:—

YEARS.	Receipts.	EXPENDITURE—			Net revenue.	REMARKS.
		On capital account.	On revenue account.	Total.		
1	2	3	4	5	6	7
1885-86 ...	Rs. 5,230	Rs. 15,096	Rs. 1,629	Rs. 16,725	Rs. (—)1,495	
1886-87 ...	4,365	.....	1,627	1,627	2,738	
1887-88 ...	4,445	.....	1,864	1,864	2,581	
1888-89 ...	4,670	.....	5,352	5,352	(—)682	
1889-90 ...	4,640	.....	2,094	2,094	2,646	
1890-91 ...	5,425	.....	2,268	2,268	3,157	
1891-92 ...	4,640	.....	1,920	1,920	2,720	
1892-93 ...	4,955	28,964	2,094	31,058	(—)26,103	
1893-94 ...	5,495	627	2,094	2,721	2,774	
1894-95 ...	6,925	754	2,094	2,848	4,077	
Total ...	50,790	45,441	23,036	68,477	(—)17,687	

The increase in the receipts amounted to Rs. 1,430 over those of last year, and as the expenditure was practically the same, the increase in the net revenue was Rs. 1,303.

ORISSA COAST CANAL.

123. The Capital and Revenue Accounts of this canal are given below:—

1.—CAPITAL ACCOUNT.

CAPITAL
ACCOUNT.

HEADS OF ACCOUNT.	Outlay during 1894-95.	Outlay to end of 1894-95.
1	2	3
Direct charges	Rs. 46,942	Rs. 43,35,817
Less—Receipts on capital account ... ..	...	3,293
Total direct charges	46,942	43,32,524
Indirect charges	634	1,04,989

The canal, which, including $4\frac{1}{2}$ miles of river crossing, is 102 miles long from end to end, was open for navigation throughout the year.

There was an expenditure of Rs. 19,684 under capital account during the year on the works detailed below:—

		Rs.
(a)	Building a new inspection bungalow at Charbatia	1,619
(b)	Ditto ditto at Bhaithghur	2,802
(c)	Remodelling flood escapes on Ranges IVA and V	7,744
(d)	Making a new escape in the 109th mile of Range V and closing an old one at Jamka in the 108th mile	6,042
	Completing the dock and two tanks at Panchpali	360
	Dredging some of the unexcavated portions of Ranges IVA and V	1,317
	Total	19,684

The Superintending Engineer writes:—

"The construction of the inspection bungalows at Charbatia and Bhaithghur was nearly completed when the year expired. A commencement was made with the revetted escapes at Jamka, Panchpali, Gumai, and Atilabad, consisting of brick blocks laid at certain levels with stone pitching between them one foot deep.

The new escape in the 109th mile of Range V was completed in place of the one closed in the 108th mile at Jamka. The remodelling of the Jamka sluice was taken in hand, but not completed."

2.—REVENUE ACCOUNT—(Actuals.)

REVENUE
ACCOUNT.

PARTICULARS.	EXPENDITURE—		PARTICULARS.	RECEIPTS—	
	During 1893-94.	During 1894-95.		During 1893-94.	During 1894-95.
1	2	3	4	5	6
	Rs.	Rs.		Rs.	Rs.
DIRECT CHARGES.			Water-rates	...	...
I.—Maintenance and repairs	87,103	76,448	Navigation	95,233	64,094
II.—Revenue management	7,029	6,898	Miscellaneous	2,477	1,937
Total direct charges	94,132	83,346	Total	97,710	66,031
Indirect charges	4,001	3,725	Less—Refunds of revenue	1,143	91
Total working expenses	98,133	87,071			
Net revenue	(—)1,566	(—)21,131			
Total	96,567	65,940	Net total receipts	96,567	65,940

NOTE.—The details by heads of expenditure for the year 1893-94 and nine preceding years will be found in the table given in paragraph 124 following.

The receipts were less by Rs. 30,627 than those of 1893-94, which were exceptionally large owing to the abnormal pilgrim traffic, but were about the average of ordinary years. The net result was a loss of Rs. 21,131.

The reduction in the maintenance expenditure from the figures of the previous year amounted to Rs. 10,655. On works alone the rate was Rs. 541 per mile as compared with Rs. 613 per mile in 1893-94. The repairs of the sluices damaged by the cyclone of May 1893 formed no inconsiderable item in the expenditure, the Janka outlet sluice in particular having been very roughly treated. The other important works executed under repairs were the opening of a channel from the Bhogra lock to the Subarnrekha, owing to the deterioration of the Guchida river; the repairs to several escapes; silt-clearing from the outfall channel of the Kansbans sluice; and the revetment of the eroded left bank of the Burrabullong river close to the Nulcool lock.

125. An important change in the tollage assessments was made during the year by the introduction, on the 1st January 1894, of through tickets at reduced rates from various toll stations on the Coast Canal to Gewankhali. The rate from Balasore to Gewankhali was reduced from 86 to 66 annas, and on Range V also the rate was reduced from 38 to 28 annas. The object aimed at was to induce boats to use the Hijili Tidal Canal instead of going round by sea to the Hooghly, and also to stimulate traffic on Range V. Notwithstanding this concession, the Executive Engineer reports that "boats still prefer to use the Rasalpur and Haldi rivers when weather permits," and that 8,610 boats adopted this route, rather than pay the tollage on the Tidal Canal. The Superintending Engineer believes this must be chiefly local traffic from the river marts, and suggests, as worthy of consideration, the reduction of the tollage on the Hijili Canal during the cold weather months.

To estimate the effect of the reduced rates, a comparison with the returns of 1892-93 should be made rather than with those of 1893-94 when, as stated in paragraph 123, the traffic was abnormal. The following is an abstract from the returns of the two years:—

Year.		Tonnage.	Tollage. Rs.
1892-93	... 11,384 boats 851 steamers	100,807	{ 87,406 from boats. 18,372 from steamers.
1894-95	... 15,477 boats 863 steamers	151,442	{ 44,342 from boats. 18,297 from steamers.

Though the reduced tolls applied to the steamers, they actually pay $7\frac{1}{2}$ per cent. higher rates than they did in 1892-93, owing to the reduction in the allowance made for engine space from $\frac{1}{2}$ to $\frac{1}{3}$ rd. Consequently, the decrease in their tollage shown in the table above, must have been due to lighter loads, as their number increased from 851 in 1892-93 to 863 in 1894-95. The increase in the tonnage of boats was 50 per cent., which was probably due as much to the good rice crop as to the reduction in the tollage. Regarding the effect of the reduction of rates on Range V, the Superintending Engineer writes:—

"It is satisfactory to note an increase of tollage on Range V, notwithstanding the reduced rate. Rice is now being boated down this part of the canal from Balasore for shipment at Chandbali."

126. The following table compares the traffic of the year with that in 1893-94:—

CANAL.	Number of boats.		Tonnage of boats.		Value of cargo, including rafts.		Tolls.	
	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.
1	2	3	4	5	6	7	8	9
Orissa Coast Canal	No. 11,823	No. 10,771	Tons. 1,11,525	Tons. 1,27,692	Rs. 37,45,657	Rs. 31,27,301	Rs. 95,233	Rs. 64,034

All the rivers were in high flood in July 1894, but no damage worth recording was done.

The highest levels in the various ranges were as follows:—

Range III	...	...	= 113.10	on 29th July 1894.
IV A	...	...	= 115.50	on 26th ditto.
IV B	...	...	= 115.80	on 26th ditto.
V	...	...	= 113.20	on 29th ditto.

SARAN CANALS.

131. The Capital Account of these canals has been closed. The Revenue Account is given below:—

REVENUE ACCOUNT—(Actuals).

PARTICULARS.	EXPENDITURE—		PARTICULARS.	RECEIPTS—	
	During 1893-94.	During 1894-95.		During 1893-94.	During 1894-95.
1	2	3	4	5	6
DIRECT CHARGES.	Rs.	Rs.		Rs.	Rs.
Maintenance and repairs.	5,982	1,479	Water-rates ...	6,764	938
			Navigation ...	...	...
			Miscellaneous ..	50	444
INDIRECT CHARGES. ...	243	83			
			Total ...	6,814	1,382
Total working expenses	6,205	1,542	Less—Refunds of revenue.	530	8,182
Net revenue ...	79	(—) 3,342			
			Net total receipts	6,284	(—) 1,800
Total ...	6,284	(—) 1,800			

NOTE.—The details by heads of expenditure for the year 1894-95 and nine preceding years will be found in the table given in paragraph 132 following.

132. The receipts on Revenue Account and working expenses of the Saran Canals for the last ten years are shown in the following statement:—

	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6	7	8	9	10	11
RECEIPTS.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Water-rates ...	59,787	11,979	21,079	30,415	22,090	30,893	15,755	1,492	6,794	938
Navigation ...	1,400	1,396	(—) 408	399	123	160	46	84	80	444
Miscellaneous ...	...	...	...	...	...	...	...	...	...	...
Total ...	41,143	13,437	20,665	30,814	23,113	31,053	15,831	1,576	6,814	1,382
Less—Refunds of revenue ...	...	...	...	...	...	...	...	...	...	...
Net total receipts ...	41,143	13,437	20,665	30,814	23,113	31,053	15,831	1,576	6,814	(—) 1,800
WORKING EXPENSES										
Direct charges.										
Maintenance and repairs ...	18,014	23,481	18,891	23,978	24,200	26,454	9,081	9,617	4,111	1,437
Establishment ...	5,144	5,480	9,119	10,248	12,422	10,530	3,710	5,779	1,733	447
Tools and plant ...	593	(—) 979	490	673	991	329	(—) 793	819	114	5
Total direct charges ...	23,751	27,983	28,500	34,899	37,613	37,313	12,098	15,208	5,943	1,479
Indirect charges.										
Capitalisation of abatement of land revenue ...	...	...	...	...	...	...	...	...	...	...
Leave and pension allowances ...	...	...	...	...	...	...	...	...	...	...
Total indirect charges ...	580	759	1,377	1,436	1,739	1,478	619	619	245	63
Total working expenses ...	23,331	28,742	29,877	36,335	39,352	38,791	12,717	15,827	6,188	1,542
Net revenue ...	17,812	(—) 15,305	(—) 8,712	(—) 15,521	(—) 16,239	(—) 1,000	2,774	(—) 13,506	70	(—) 1,800

LENGTH OF
CANALS OPEN
AND AREAS
COMMANDED
AND IRRIGAT-
ED.

133. There was no change in the lengths of the canals, which are given in the following table:—

NAME OF CANAL.	1894-95.								1893-94.							
	Navigable canals.	Canals for irrigation only.	Distributaries.	Area protected from flood.	Area under command.	Area provided with distributaries.	Area irrigated.	Percentage of area irrigated to area provided with distributaries.	Navigable canals.	Canals for irrigation only.	Distributaries.	Area protected from flood.	Area under command.	Area provided with distributaries.	Area irrigated.	Percentage of area irrigated to area provided with distributaries.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Saron Canals.	Miles.				Acres.		Acres.			Miles.			Acres.		Acres.	
Main canal or head cut	6.34									6.34						
Branch Canals.																
I.—Daha feeder	3.34				64,000		NH			3.34			64,000		1,500	
II.—Gandaki	1.67									1.67						
III.—Dhanai	1.00									1.00						
IV.—Gandaki	0.67									0.67						
In addition to the above, the following are maintained:—																
I.—Thakraba Bote	1.50									1.50						
II.—Khanpur Chap Bote	27.00									27.00						

These canals were closed on the 31st March 1894, by the construction of dams across the mouths of the feeders. The 38 miles of distributaries in the Moniara and Sadowa estates are the property of the proprietors of those concerns. No other distributaries exist. Two dams, constructed ten years ago by the Manager of Moniara, across the Daha, for irrigation purposes, were cut during the year to allow the drainage of the head cut to pass down the canal.

RAINFALL.

134. The average rainfall on the area under command is shown by seasons in the table below for the last five years:—

	1890-91.	1891-92.	1892-93.	1893-94.	1894-95
	Inches.	Inches.	Inches.	Inches.	Inches.
Kharif season*	24.60	11.52	27.70	24.96	28.55
Rabi	1.43	0.61	2.29	1.08	2.62
Year	58.63	35.05	49.19	49.95	51.28

* August, September and October.

The Superintending Engineer writes:—

"The rainfall was very general over the whole district and was even more favourable than the previous year; light and seasonable rain fell during the hot-weather months. The rainfall during the rains, especially in September and October, was abundant, so that even if the canals had been opened, there would have been no demand for irrigation. Both the indigo and rice crops gave better outturns than the average."

FLOODS.

135. The floods which occurred during the year were not very high, but one which came down the Gunduk on the 27th June 1894 caused a good deal of damage to indigo and other crops on the Dearas.

IRRIGATION.

136. As the canals were closed, there was no irrigation during the year.

ASSESSMENTS,
COLLECTIONS
AND BALANCES.

137. The agreement with the proprietors of the Moniara and Sadowa concerns, which expired on the 31st March 1894, was not renewed. It was decided to make a radical change in the system of working the canals, and rules were accordingly published in the *Calcutta Gazette*, laying down the conditions under which water would be admitted to them. The most important of these is that payment of the charge levied for the supply of water to any canal must accompany any application for the opening of its head sluice. The amounts fixed for each canal are as follows:—

	Rs.
No. III.—The Daha	10,000
" IV.— " Gandaki	5,500
" V.— " Dhanai	6,500
" VI.— " Gangri	8,000
Total	30,000

As no one applied during the year to have any sluice opened, the canals remained closed throughout the year.

When the agreement with the proprietors of Moniara and Sadowa terminated on the 30th March 1894, there were two outstanding revenue accounts—

(i) The account with the old guarantors whose agreement expired on the 31st March 1891.

The discrepancies which existed between the Collector's account and that kept by the Executive Engineer, were carefully investigated during the year by the Executive Engineer and the Collector, and the following is the amended account up to the 31st March 1895:—

Serial number.	GUARANTERING FACTORY.	BY TREASURY ACCOUNT BALANCE ON 1ST APRIL 1891.		Collected from April 1st 1891 to 31st March 1894.	BALANCE ON 31ST MARCH 1894.		Amount paid or written off as per original Gen- eral No. 1461 dated 31st January 1895, to Commissioner of Patna.	Balance due on 1st April 1895.	REMARKS.
		From factory.	To factory.		Due from	Due to			
1	2	3	4	5	6	7	8	9	10
1	Moniara	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Paid. *Paid. *Written off.
2	Sadowa	1,304 9 8	3,187 10 8	360 5 0	.....	2,430 15 8	3,107 0 0	320 15 8	
3	Jagpore	2,801 10 1	.....	1,871 7 8	.....	111 7 8	75 0 0	31 7 8	
4	Burhoga	.....	.....	2,408 8 8	88 2 1	.....	255 2 1	.....
5	Arrows	2,614 14 1	.....	619 7 8	1,006 0 4	.....	1,990 0 4	.....	*Written off.
6	Bamcul	.....	.....	.....	.....	.....	.....	.....
7	Berhowli	.....	.....	.....	.....	.....	.....	.....
8	Balapaty	.....	.....	.....	.....	.....	.....	.....
9	Bitalpore	.....	.....	.....	.....	.....	.....	.....
10	Harpur	.....	.....	.....	.....	.....	.....	.....
11	Bansopali	800 0 0	.....	800 0 0	.....	.....	.....	.....
12	Gaighat	231 4 0	.....	231 4 0	.....	.....	.....	.....
	Total	7,469 12 8	3,187 10 8	5,750 1 0	2,009 8 5	2,538 7 2	2,301 5 8	206 7 5	

(ii) The account with the proprietors of the Moniara and Sadowa concerns for three years from the 1st April 1891 to the 31st March 1894.

At the beginning of the year there was still an outstanding balance of Rs. 4,382 which, by the terms of the agreement, should have been paid to Government by the proprietors on or before the 31st March 1894. But there was a sum of Rs. 5,267 outstanding for irrigation done outside the proprietors' debts, which, if it had been recovered, would have been payable to them. A compromise was therefore effected. A sum of Rs. 3,724, which represented the total of all demands over Rs. 2 of these assessments, was credited to the proprietors' accounts, and the balance Rs. 1,648, was remitted to the cultivators. There then only remained a sum of Rs. 672 to be paid to Government by the proprietors. The amount was paid, and the account closed.

138. The expenditure on maintenance during the past five years is shown below:—

	Miles.	1890-91.	1891-92	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6	7
Repairs to headcut and river protec- tive works	6.34	Rs. 7,445	Rs. 4,304	Rs. 1,341	Rs. 1,766	Rs. 432
Repairs to Daba feeder	3.34	1,990	357	544	499	166
" to Gandaki feeder	1.67	1,735	221	1,550	550	150
" to Dhanai feeder	1.00	592	65	411	242	119
" to Gangri feeder	0.67	2,777	129	565	424	170
" to dams and channels for irrigation purposes	...	12,615	8,946	5,106	681	...
Total	...	26,454	9,021	9,517	4,119	1,037
Establishment	...	10,560	3,710	3,772	1,738	447
Tools and plant (actual)	...	389	(-) 193	213	112	(-) 5
Refund of revenue	...	...	...	...	530	3,183
GRAND TOTAL	...	37,403	12,538	13,502	6,492	4,661

MAINTENANCE
AND REPAIRS.

141. The receipts on revenue account and working expenses for the last ten years are shown below:—

FINANCIAL RESULTS.

	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6	7	8	9	10	11
RECEIPTS.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Navigation	1,82,363	2,04,707	1,99,318	1,91,791	1,94,933	2,00,508	1,92,718	1,95,360	1,71,140	1,41,419
Miscellaneous	399	548	837	97	60	136	247	139	96	270
Total	1,82,761	2,05,255	1,99,075	1,91,888	1,95,043	2,00,644	1,92,965	1,95,499	1,71,236	1,41,689
Less—Refunds of revenue ... ..	...	...	...	...	390	162	228	18	1	...
Total receipts	1,82,761	2,05,255	1,99,075	1,91,888	1,95,043	2,00,482	1,92,737	1,95,520	1,71,235	1,41,689
WORKING EXPENSES.										
<i>Direct Charges.</i>										
Maintenance and repairs	42,084	30,941	42,801	38,938	47,545	52,453	52,704	54,733	77,344	98,588
Establishment	51,589	50,583	41,925	42,305	50,537	45,410	45,536	51,531	53,132	60,669
Tools and plant	1,759	1,409	5,523	2,330	2,200	2,476	1,330	1,644	1,661	1,890
Expense accounts	1,228	450	(—) 1,627	(—) 14	(—) 1,625	3,169	(—) 3,018	1,060	478	1,339
Total direct charges	77,669	83,313	91,923	1,34,884	101,887	1,03,237	1,00,627	1,08,968	1,33,625	1,62,986
<i>Indirect Charges.</i>										
Leave and pension allowances	4,419	4,301	5,970	6,075	5,395	6,337	6,417	7,221	8,229	8,494
Total indirect charges	4,419	4,301	5,970	6,075	5,395	6,337	6,417	7,221	8,229	8,494
Total working expenses	82,088	87,614	97,893	1,40,959	107,282	1,09,574	1,07,044	1,16,189	1,41,854	1,71,480
Net revenue	1,00,673	1,17,641	1,01,182	50,929	87,761	90,908	85,693	86,551	29,381	...

The decrease in the receipts, amounting to Rs. 29,553, was due to the Jalangi river being unnavigable for large boats during a considerable portion of the year. There can be no doubt that these rivers are gradually deteriorating, and the difficulties and cost of keeping them open for navigation are increasing every year. It is true there was some improvement in the state of the Bhagirathi, but the depth of water was not sufficient to allow large boats to ply on it, and the usual route by the Jalangi was entirely closed to them. The average receipts of late years have appreciably diminished, and the fast declining revenue has almost disappeared. The Executive Engineer seems hopeful, however, of an improvement next year, and the Superintending Engineer writes that "it is quite possible, with good entrances, and a plentiful supply in the Ganges, for the shoals to be so improved as to greatly reduce the cost of maintenance. It is to be hoped that from 1895-96 a new period of prosperity will begin for these rivers."

142. No rainfall register is kept up for these rivers.

The gauge readings at Gheria and Berhampore for the last six years are given below:—

RAINFALL.
FLOODS.

	GHERIA.	BERHAMPORE.
1889 ...	34.00	30'4½"
1890 ...	34.70	30'11¼"
1891 ...	29.30	26'7"
1892 ...	31.55	29'1½"
1893 ...	30.75	27'11¼"
1894 ...	32.75	30'3¼"

The highest flood levels of 1894-95 are compared below with the highest levels in the previous year and with the highest levels on record. The readings given are the heights above mean sea level:—

River.	Locality.	1894-95.		1893-94.		Highest known.	
		Date.	Reading.	Date.	Reading.	Date.	Reading.
1	2	3	4	5	6	7	8
Bhagirathi ...	Berhampore	29th Aug. 1894.	64.04	20th Aug. 1893	61.70	16th Aug. 1889	64.71
Jalangi ...	Sarupganj	6th Sept. "	26.41	20th Sept. "	27.42	28th " "	24.28
Mathabhanga ...	Hanskhali	27th Dec. "	24.20	1st Oct. "	23.75	3rd Sept. "	20.92

The Bhagirathi river rose to within $8\frac{1}{2}$ inches of the highest recorded level. The embankment at Laltakuri was seriously threatened, but happily the danger was successfully averted.

NAVIGATION.

143. The several classes of boats which plied on the rivers and the tolls collected from them are tabulated below:—

NAME OF RIVER.	NUMBER AND CLASS OF BOATS.						COLLECTIONS BY TOLL COLLECTORS.					
	Up to 100 mannds.	Between 100 and 1,000 mannds.	Between 1,000 and 2,000 mannds.	Between 2,000 and 4,000 mannds.	Over 4,000 mannds.	Total.	Tolls from boats.	Tolls from rafts.	Tolls from steamers and flats.	Total tolls.	Miscellaneous cargo.	Total collections.
1	2	3	4	5	6	7	8	9	10	11	12	13
	No.	No.	No.	No.	No.	No.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Bhagirathi (Jangipur toll station).	7,309	4,218	719	169	18	12,574	20,275	—	7,879	27,594	—	—
Bhagirathi and Bhayrah-Jalangi (Barugganj toll station).	12,164	12,269	1,874	248	2	26,557	67,622	—	12,719	51,300	279	1,41,410
Mathabhanga and Ichamati (Hanskhali toll station).	4,001	5,127	500	14	—	10,652	22,204	24	11	22,437	—	—
Total, 1894-95	24,344	22,217	3,446	431	20	49,697	1,12,099	24	12,809	1,01,419	279	1,41,410
Total, 1893-94	25,204	24,270	2,800	404	18	52,696	1,05,404	—	26,207	1,71,160	—	1,71,160

TRAFFIC.

144. The following is a statement of the number of boats, their tonnage the weight and value of their cargo, and the toll collection:—

NAME OF RIVER.	Number of boats, inclusive of steamers, flats and rafts.	Tonnage of boats.	Weight of cargo.	Value of cargo.	Tolls collection.	Percentage of toll on value of cargo.
1	2	3	4	5	6	7
	No.	Tons.	Tons.	Rs.	Rs.	
Bhagirathi	13,116	186,893	74,704	60,12,841	27,594	...
Ditto and Bhayrah-Jalangi	26,948	372,405	142,536	2,16,52,717	81,398	...
Mathabhanga and Ichamati	10,454	108,870	36,060	35,46,768	22,427	...
Total, 1894-95	50,518	668,245	257,460	2,12,12,857	1,41,410	0.45
Total, 1893-94	57,113	729,852	322,492	3,26,34,769	1,71,160	0.43

* Tolls from boats, steamers, flats and rafts.

145. No transport service is maintained by Government on these rivers. The steamer service kept up by the several companies are shown in the statement below :—

STEAMER
SERVICE.

NATURE OF SERVICE.	TERMINAL STATIONS—		Outward and inward.	PERIOD.
	From—	To—		
1	2	3	4	5
Weekly ...	<i>Calcutta Steam Navigation Company.</i> Calcutta ... Jangipur ...		Both ...	From 1st July to 23rd December 1894.
Twice a week ...	Kalna ...	Katwa and Junganj.	Do. ...	Throughout the year.
Ditto ...	Azimganj ...	Dhulian ...	Do. ...	21st September to 3rd November 1894.
Twice daily ...	Berhampore	Azimganj ...	Do. ...	June 1894 to 31st March 1895.
Twice a week ...	<i>East Indian Railway Company.</i> Azimganj ... Dhulian ...		Both ...	9th July to 19th December 1894.
Daily ...	Berhampore	Azimganj ...	Do. ...	19th February to 10th March 1895.

146. The cost of the revenue establishment for the last five years is shown below :—

REVENUE
ESTABLISH-
MENT.

	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
Salary and commission of Collec- tors ...	Rs. 13,224	Rs. 13,210	Rs. 2,391	Rs. 12,644	Rs. 14,807
Accounts and office establishment	9,223	8,942	18,879	8,901	8,494
Travelling allowance	711	530	601	525	766
Contingencies	472	452	411	947	395
Total	23,630	23,134	22,282	23,017	24,462

There was an increase of Rs. 1,445 during the year due mainly to the higher pay and allowances drawn by the Officiating Toll Collector, Mr. Street (now Honorary Assistant Engineer).

147. The charges for maintenance and repairs (exclusive of establishment and tools and plants) for the last three years are detailed below :—

MAINTENANCE
AND REPAIRS.

PARTICULARS.	1892-93.	1893-94.	1894-95.
1	2	3	4
Re-opening lower entrance channel, Bhagi- rathi river ...	Rs. ...	Rs. 546	Rs. ...
Training works in river Bhagirathi ...	46,518	51,481	41,642
" " Bhyrub ...	3,174	4,318	3,989
" " Jalangi ...	3,287	6,430	7,034
" " Mathabhanga ...	3,062	2,060	2,717
" " Nadia rivers ...	6,161	6,500	6,535
Maintaining and working divisional boats ...	2,698	2,635	2,498
Petty and other charges ...	3,863	3,394	4,178
Total	68,763	77,436	68,588

The original works executed or in progress during the year were the following:—

- (a) Remodelling the existing irrigation channel from Balara above the Kana Damodar stop-dam to Kalna. This work was commenced in 1893-94, and completed during the year under review at a total cost of Rs. 694, of which a sum of Rs. 179 only was expended during the year.
- (b) Combined bridge and regulator over the Kana Damodar at Chakdighi, to regulate the supply of water in the Kana Damodar for irrigation purposes, as well as to give the people of Chakdighi and of the neighbouring villages, the benefit of a substantial road bridge. The estimated cost of the work is Rs. 10,300 against which a sum of Rs. 8,229 was expended during the year.
- (c) A project for connecting, by two channels, an old blind water-course called Rankini Doho, 7,400 feet in length, with the Kana Damodar and Kana Nadi, and for providing a sluice at the mouth of the channel. The land was given free of cost by the promoters, and the work was completed at cost of Rs. 4,111 against the estimated amount of Rs. 5,169.

Besides the above, the following original works were also carried out during the year, but their cost was charged to the grant for maintenance of the canal.

(i) *Stop-dam at the mouth of the Channel No. 2 at Joojooty.*—To obviate the necessity of removing silt from the channel at an annual cost of about Rs. 6,000, and also to guard the sluice itself from the free action of the floods. The work was completed during the year at a cost of Rs. 7,791.

(ii) *Connecting channel between the Behula and the Gangoor Nadis.*—To facilitate the irrigation of a number of villages. The cost of the work was Rs. 734.

(iii) *Remodelling the existing channel from regulating sluice No. 3 at Chancha to feed the Dhosi Nadi.*—The work was completed during the year at a cost of Rs. 716.

The expenditure on maintenance was only Rs. 25,303 against Rs. 35,619 of the previous year, the decrease being due to the small amount of silt which it was necessary to excavate from the canals. The receipts from water-rates on the other hand diminished from Rs. 35,943 in 1893-94 to Rs. 20,674 in the year under review. This was due to the cancelling of a number of leases on the banks of the Banka, the full length of which has not been brought under the operation of Irrigation Act, and to other causes.

153. The rainfall registered at Edilpore was 48.1 inches as compared with 67.48 inches in the previous year. But the rain was seasonable, and in the kharif season practically the same amount fell as in the corresponding months of 1893-94. The demand for canal water was therefore not large.

154. Regarding crop experiments the Superintending Engineer writes:—

"Owing to abundant rainfall, the year was not favourable for crop experiments. A few experiments were, however, made with paddy crops only, with the result that an acre of middle class land irrigated by canal water produced 25 maunds and 35 seers of paddy and 38 maunds 14½ seers of straw, whereas an acre of the same class of land not receiving the benefit of canal water, yielded only 20 maunds and 26 seers of paddy and 30 maunds and 5½ seers of straw."

155. The total area leased during the year was 41,584 acres as compared with 47,925 acres in 1893-94, the falling off being due to the cancelling of leases of villages on the banks of the Banka Nala and Kana Damodar.

From the Eden canal alone 17,982 acres were irrigated in the Bardwan district, against 10,670 acres in the previous year, and 2,408 acres in the Hooghly district, against 1,009 acres in 1893-94. The increase was mainly due to the scanty rainfall, but as the fall was well distributed, a large portion of the leased area did not require canal water.

AREAS LEASED
AND IRRIGATED
ED.

The areas irrigated by the Eden canal during the last five years are shown below :—

YEAR.	Long leases.	Annual leases.	One flush- ing beyond area com- manded.	Unautho- rised.	Total.	REMARKS.
1	2	3	4	5	6	7
	Acres.	Acres.		Acres.	Acres.	
1890-91	...	...	...	...	1,330	
1891-92	12,707	1,478	...	...	14,185	
1892-93	47,848	6,534	...	16,951	71,333	
1893-94	11,601	138	...	...	11,739	
1894-95	19,650	20	720	...	20,390	

These figures show that it is only in exceptional years that there is any demand for canal water.

DEMAND,
SANCTION
AND BALANCE.

156. The water-rates assessed during the year amounted to Rs. 38,121 and the total demands, including the arrear balance from the previous year of Rs. 31,541, was Rs. 69,662. Against this amount Rs. 20,674 were collected during the year, Rs. 6,725 remitted, and Rs. 94 adjusted as excess recoveries. The balance left unrealized at the end of the year was Rs. 33,169.

REVENUE
ESTABLISH-
MENT.

157. The cost of the revenue establishment during the year was Rs. 4,052 against Rs. 2,378 in the previous year.

MISCELLA-
NEOUS
RECEIPTS.
PLANTATIONS.

158. The miscellaneous receipts amounted to Rs. 576 against Rs. 620 in 1893-94.

FLOODS.

159. The expenditure on plantations was Rs. 76 against Rs. 66 in 1893-94. The number of mahogany trees was increased from 334 to 360.

160. There were eight floods in the Damodar river during the year, the last of which, only 2 feet 5 inches below the highest recorded, occurred as late as 27th October 1894. No damage to the canal was done, though the flood which reached its maximum at Edilpore on the 8th July, was only 11 inches below the highest on record.

GAIGHATTA AND BUXI KHAL.

LAKE OF
CHANNEL.

161. This channel, $7\frac{1}{2}$ miles in length, was taken over by the Public Works Department on the 1st April 1894. It was formerly an important trade route connecting the Damodar and Rupnarain rivers, but its importance diminished when the Midnapore canal was opened, and it was placed under the management of the Hooghly Road Cess Committee. After this, from want of proper attention it silted up so much that the traffic of even small boats was almost stopped. Subsequently, it came into the hands of the District Board of Howrah, and its annual income was then estimated at Rs. 2,810. Government was eventually asked to resume its management, as it continued to deteriorate, and its income in consequence to diminish.

RECEIPTS AND
EXPENDITURE.

An estimate, amounting to Rs. 31,471, was sanctioned for its re-excavation, of which Rs. 19,854 were spent during the year. The total expenditure on its maintenance amounted during the year to Rs. 27,269. The miscellaneous receipts were Rs. 820.

The right of collecting tolls for 1895-96 has been farmed out for Rs. 5,100.

MADHUBAN CANAL.

162. The expenditure incurred in maintaining this canal during the last five years is shown below:—

PARTICULARS.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Works ...	6,236	...	...	...	...
Maintenance ...	2,000	7,300	7,093	5,943	5,567
Establishment ...	3,293	3,003	2,813	2,438	2,405
Tools and plant ...	287	203	126	2	36
Total ...	11,827	10,506	10,032	8,383	8,008

There was no high flood in the Teur river during the year, and consequently the weir was much less damaged than usual during the flood season. A deep hole was scoured out below the apron in front of the under-sluiçes, and a portion of the apron itself was damaged.

No revenue is derived from the canal.

The miscellaneous receipts were Rs. 63 against Rs. 163 in 1893-94.

163. As the rainfall was very deficient up to the end of August, there was a large demand for canal water and a total area of 5,518 acres was irrigated. The areas of the different crops irrigated during the last four years were as follows:—

Nature of crop.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5
	Acres.	Acres.	Acres.	Acres.
Kharif ...	2,539	4,895	2,710	5,033
Rabi ...	495	150	46	117
Poppy ...	552	784	301	322
Hot weather crops ...	...	640	14	46
Total ...	3,586	6,400	3,071	5,518

164. The state of the plantations for the last two years is shown below:—

YEAR.	Trees over 12 feet.	Saplings between 4 and 12 feet.	Seedlings under 4 feet.	Total.
1	2	3	4	5
	No.	No.	No.	No.
1893-94 ...	188	182	286	656
1894-95 ...	247	246	202	695

GENERAL RESULTS.

NET REVENUE. 165. The net results of the year 1894-95, compared with those of the previous year, are shown below:—

PARTICULARS.	Receipts from all sources.	Working expenses, including refunds of revenue. (Direct and indirect charges.)	Profit or loss.
1	2	3	4
MAJOR IRRIGATION WORKS.	Rs.	Rs.	Rs.
1893-94	16,72,626	15,48,765	+ 1,23,861
1894-95	16,24,040	14,65,962	+ 58,078
MINOR WORKS AND NAVIGATION.			
<i>For which Capital and Revenue accounts are kept.</i>			
1893-94	5,25,348	3,93,423	+ 1,31,925
1894-95	5,19,870	3,81,607	+ 1,29,263
<i>For which only Revenue accounts are kept.</i>			
1893-94	1,71,252	1,46,658	+ 24,594
1894-95	1,42,518	1,69,186	- 26,668
<i>For which neither Capital nor Revenue accounts are kept.</i>			
1893-94	36,687	59,377	- 22,690
1894-95	30,313	60,823	- 30,510
Total { 1893-94	24,05,913	21,48,223	+ 2,57,690
{ 1894-95	22,07,741	20,77,678	+ 1,30,163

The total receipts show a surplus of Rs. 73,741 over the figures of the revised budget estimates, while the total expenditure was Rs. 1,18,358 less than that budgetted for.

REVENUE. 166. Reckoned on earnings, that is on assessed revenue, as opposed to actual receipts, the net results of the Major Irrigation Works for the last two years were as follows:—

	Earnings.	Working expenses.	Profit or loss.
	Rs.	Rs.	Rs.
1893-94	14,77,532	15,48,765	(-) 71,233
1894-95	13,85,719	14,65,962	(-) 80,243

The revenue from Minor Works and Navigation is derived mainly from tollage receipts.

ASSESSMENT. 167. Good progress was made during the year in the recovery of water-rates, and the reduction of the uncollected balance from Rs. 1,72,235 to Rs. 77,498, is very satisfactory.

The figures for the three canal systems are given below:—

CANALS.	Outstanding on 1st April 1894.	Demand of 1894-95.	Collected or adjusted.	Outstanding on 1st April 1895.
1	2	3	4	5
	Rs.	Rs.	Rs.	Rs.
Orissa	63,250	1,68,449	1,99,659	82,140
Midnapore	7,027	1,35,016	1,37,494	4,549
Sone	1,01,858	6,83,905	7,47,954	40,809
Total	1,72,235	9,90,370	10,85,107	77,498

CANAL.	DEMAND.			COLLECTIONS.			PERCENTAGE OF COLLECTIONS.		
	Arrear.	Current.	Total.	Arrear.	Current.	Total.	Arrear.	Current.	Total.
1	2	3	4	5	6	7	8	9	10
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1894-95.									
Orissa Canal	63,350	1,68,449	2,31,799	64,644	1,51,074	1,99,659	74.02	89.08	84.15
Midnapore Canal	7,027	1,35,016	1,42,043	6,396	1,31,102	1,37,494	90.11	97.14	94.79
Sone Canal	1,01,858	6,80,006	7,81,864	92,418	6,55,536	7,47,954	80.73	96.43	88.58
Total, 1894-95	1,72,235	8,83,471	10,55,706	1,63,458	8,37,712	10,80,170	81.54	94.68	88.23
1893-94.									
Orissa Canal	87,816	1,90,084	2,77,900	89,778	1,87,532	2,17,890	60.51	82.86	77.19
Midnapore Canal	49,307	1,30,111	1,79,418	47,346	1,24,512	1,51,661	97.60	95.73	96.77
Sone Canal	67,721	8,3,361	9,01,082	83,830	7,65,263	8,30,093	85.48	90.52	89.15
Total, 1893-94	2,04,844	3,03,556	5,08,400	2,20,954	3,77,307	4,98,261	84.61	89.33	87.79

168. A comparison is made in the following table between the approximate value of crops irrigated by Major Irrigation Works during the year and in 1893-94:—

CANALS.	1893-94.		1894-95.	
	Area irrigated.	Value of crops.	Area irrigated.	Value of crops.
1	2	3	4	5
	Acres.	Rs.	Acres.	Rs.
Orissa	103,526	32,05,156	122,561	37,78,120
Midnapore	85,763	26,31,605	70,110	25,22,086
Sone	306,770	1,22,10,325	317,134	1,21,71,797
Total	550,059	1,80,50,786	509,811	1,84,72,013

The average value per acre of the various crops irrigated has increased from Rs. 32.4 to Rs. 36.2.

169. The date fixed for the submission of revenue reports to the office of the Chief Engineer is the 5th September. The dates when the different reports were received are shown below:—

		In 1894.	In 1895.
Orissa Circle	Deputy Collector's report through Commissioner.	8th September.	17th August.
	Superintending Engineer's report ...	5th ditto.	5th September.
	Deputy Collector's report through Commissioner.	5th October.	5th August.
South-Western Circle	Superintending Engineer's report ...	5th September.	2nd September.
	Deputy Collector's report through Commissioner.	8th ditto.	4th ditto.
	Superintending Engineer's report ...	3rd ditto.	27th August.

All the reports were punctual.

GENERAL
RESULTS.

170. It was stated in the Revenue Report for 1893-94, that that year had been one of a disappointing character, as far as irrigation was concerned, by reason of the heavy and seasonable rainfall. These unfavourable conditions were even more marked during the year under review. The rainfall was quite as seasonable, and in many irrigation centres, far more abundant than in 1893-94. It is not therefore surprising to find that there was a general disinclination on the part of cultivators to enter into fresh leases, and that there was very little demand for canal water. The consequence has been an inevitable decline in the revenue derived from irrigation. The year has nevertheless presented many very satisfactory features. The efforts made in each circle to effect economy in maintenance have not been altogether in vain, and on the Sone Canals in particular, the unremitting energy displayed by Mr. Buckley, in order to attain this desirable object, deserves special commendation. In the Arrah division, the expenditure was the lowest on record, and for the whole circle there was an appreciable reduction in the working expenses. The improvement effected in the recovery of water-rates is another gratifying result of the year's work. Never before has the outstanding balance been so low as it was at the close of the year 1894-95, and while credit is due to the Deputy Collectors in charge of the Revenue divisions, it is the Superintending Engineers who are mainly responsible for this very satisfactory state of things. As regards Navigation, the history of the year suggests several questions for serious consideration. The difficulty of keeping the Nadia rivers open for navigation is becoming every year more pronounced and the work itself more costly. The tollage receipts are steadily declining and during the past year barely covered the working expenses. Unless a marked improvement takes place during the ensuing season, some modification in the system of controlling these channels will probably have to be made. On the Calcutta and Eastern Canals the traffic shows a steady development notwithstanding the competition of the Eastern Bengal Railway, but the tendency to employ flats in the place of the old type of country boat, seems to demand a revision of the measurement rules, which unduly favour the former.

TOURS AND
INSPECTIONS
OF OFFICERS.

171. The statement showing the number of days spent by the various officers on tour is a satisfactory record, and proves that in all cases works away from head-quarters received due attention. The inspections of divisional and subdivisional offices were nearly up to the standard in the Sone and South-Western Circles, but in Orissa only one divisional office was inspected. This may be partly accounted for by the fact that Mr. Connan who was in charge of the circle proceeded on furlough in December 1894. He was succeeded by Mr. Hughes.

A. D. MCARTHUR, COLONEL, R.E.,
Offg. Chief Engineer.

The 8th November 1895.

STATISTICAL TABLES.

Expenditure to end of 1894-95—									
Rs.	2,50,94,409	(a) 2,56,61,403	82,61,317	23,09,067	2,50,94,731	6,59,570	52,96,118	43,32,824	
"	6,78,653	5,78,653	1,84,162	59,114	9,16,568	27,193	62,414	1,04,989	
"	1,98,87,443	1,96,87,443	74,00,401	18,33,441	1,96,92,350	...	...	...
"	4,59,52,605	4,59,90,505	1,58,15,870	42,69,622	4,66,01,849	6,96,753	53,58,633	41,37,813	
Works as now sanctioned—									
Miles	198½	170½	63	29	86½	61	47	102	
"	110½	117½	19	Nil	Nil	13½	Nil	Nil	
"	1,763	2,147	304.89	Nil	857½	Nil	Nil	Nil	
"	202½	240½	73	29	86½	Nil	47(½)	102	
Of above—									
Miles	198½	170½	63	29	86½	61	47	102	
"	103	102½	19	Nil	Nil	12½	Nil	Nil	
"	962½	1,091½	253.19	Nil	850½	Nil	Nil	Nil	
"	168½	204½	73	29	86½	Nil	47	102	
Works completed at end of 1894-95—									
Miles	198½	170½	63	29	86½	61	47	102	
"	103	102½	19	Nil	Nil	12½	Nil	Nil	
"	962½	1,091½	253.19	Nil	850½	Nil	Nil	Nil	
"	168½	204½	73	29	86½	Nil	47	102	
Of above—									
Miles	198½	170½	63	29	86½	61	47	102	
"	103	102½	19	Nil	Nil	12½	Nil	Nil	
"	962½	1,091½	253.19	Nil	850½	Nil	Nil	Nil	
"	168½	204½	73	29	86½	Nil	47	102	

(a) Rupees 12,58,955 sanctioned for direct outlay on the Orissa project from 1st April 1895 to date of closing of construction estimate on 31st March 1895—vide Government of India, Public Works Department letter No. 2537, dated 8th December 1895. Rupees 1,000,000 on 1st April 1895, 12,58,955 have been expended out of this amount.

(b) and (c) The estimated cost for the Main canals and Branch canals respectively having been with drawn and closed, the figures shown on the totals of the old and fresh estimates.

(d) Sanction to the construction estimate for the Orissa project expired on 31st March 1895. The expenditure from 1st April 1895 is chargeable against the schedule of works amounting to Rs. 7,00,000 for direct outlay sanctioned by Government of India, Public Works Department letter No. 612, dated 6th January 1895 and against Rs. 6,122 sanctioned in Bengal Government letter No. 4167, dated 16th August 1895.

(e) There is no general sanctioned estimate for this project.

(f) Includes Rs. 2,000 expended from Reserve fund.

(g) Includes Rs. 2,001 expended against the estimate for Rs. 25,000 sanctioned in Bengal Government letter No. 5571, dated 27th July 1895, chargeable to the head 43—Minor Works and Navigation.

(h) This length is that of the Calcutta and new cut canals and fully 2½ miles of Koorapukur Canal. The Eastern Canals are 200 miles in length.

IB.

CAPITAL ACCOUNT OF IRRIGATION WORKS IN BENGAL FOR AND TO END OF 1894-95.

IRRIGATION WORKS.	DIRECT CHARGES (Net Expenditure).						Indirect charges, exclusive of interest.	Total capital, excluding interest.	Simple interest.
	Works.	Establishment.	Tools and plant.	Suspense accounts.	Loss by exchange.	Total.			
	2	3	4	5	6	7	8	9	10
Major Irrigation Works.									
	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.
Crissa project ... { To end of previous year ...	1,89,31,234	45,69,401	20,11,692	1,46,299	2,68,070	2,53,26,696	5,70,887	2,58,97,583	1,86,87,621
{ During 1894-95 ...	2,63,092	55,114	25,427	—5,920	...	3,37,713	7,766	3,45,479	10,19,822
Mitnapore Canal { To end of previous year ...	58,41,241	19,18,019	9,07,257	...	94,800	82,61,317	1,84,152	84,45,489	70,69,948
{ During 1894-95 ...	...	...	...	...	...	...	...	...	2,30,453
Hijili Tidal Canal { To end of previous year ...	15,80,617	5,33,219	1,26,089	...	22,790	22,62,745	56,491	23,19,236	17,45,805
{ During 1894-95 ...	81,583	18,739	6,000	...	...	1,06,322	2,623	1,08,945	92,636
Sone Canals ... { To end of previous year ...	1,65,13,537	51,04,605	20,95,416	1,29,353	52,240	2,59,55,151	9,14,791	2,68,69,942	1,86,53,306
{ During 1894-95 ...	24,191	5,551	30,043	—20,906	...	38,880	777	39,657	10,38,984
Total ... { To end of previous year ...	4,37,66,629	1,21,85,274	51,40,454	2,75,652	4,37,900	6,18,07,909	17,26,321	6,35,32,230	4,61,35,680
{ During 1894-95 ...	3,68,866	79,404	61,470	—26,825	...	4,82,915	11,168	4,94,081	24,81,895
Minor Works and Navigation.									
Tirhut project ... { To end of previous year ...	90,685	4,33,943	8,797	...	...	5,31,426	74,650	6,06,075	...
{ During 1894-95 ...	...	...	...	...	...	...	...	...	...
Damodar " ... { To end of previous year ...	44,477	94,864	4,800	...	...	1,45,141	16,239	1,61,380	...
{ During 1894-95 ...	—1,200	...	...	...	...	—1,200	...	—1,200	...
Saran Canals ... { To end of previous year ...	4,79,418	1,64,170	25,952	...	...	6,69,570	27,183	6,96,753	...
{ During 1894-95 ...	...	...	...	...	...	...	...	...	...
Orissa Coast Canal { To end of previous year ...	33,11,662	7,39,778	2,06,088	28,054	...	42,85,582	1,04,305	43,89,887	...
{ During 1894-95 ...	19,684	4,528	20,823	1,907	...	46,942	634	47,576	...
Calcutta and Eastern Canals. { To end of previous year ...	45,16,941	3,94,819	3,68,463	14,819	...	62,95,042	62,404	53,57,446	...
{ During 1894-95 ...	834	...	...	242	...	1,076	...	1,076	...
Total ... { To end of previous year ...	84,44,213	18,27,574	* 6,12,100	42,873	...	1,09,26,760	2,84,781	1,12,11,541	...
{ During 1894-95 ...	19,318	4,528	20,820	2,149	...	46,818	634	47,452	...
Grand Total ... { To end of previous year ...	5,22,10,942	1,40,12,848	67,52,554	3,18,525	4,37,900	7,27,32,669	20,11,102	7,47,43,771	4,61,36,680
{ During 1894-95 ...	3,88,184	83,932	82,293	—24,676	...	5,29,733	11,800	6,41,533	24,81,895

I

STATEMENT SHOWING THE FINANCIAL RESULTS OF IRRIGATION

Realisations under main heads of

REVENUE (ACTUAL RECEIPTS).												
IRRIGATION WORKS.	IRRIGATION.			Navigation.	Plantations and lands.	Water-works.	Miscellaneous.	Totals.	Refund of payment.	Gross receipts (less refunds).	Revenue	
	Water-rates directly paid.	Share of land revenue.	Total.								Division.	Expenditure.
1	2	3	4	5	6	7	8	9	10	11	12	13
MAJOR WORKS.	Rs.	Ra.	Ra.	Rs.	Rs.	Ra.	Rs.	Ra.	Ra.	Ra.	Ra.	Ra.
Orissa project	1,88,540	—	1,88,540	1,18,301	2,814	—	21,807	5,35,073	727	2,32,845	5,879	48,983
Midnapore Canal	1,35,398	—	1,35,398	1,55,495	55	—	29,352	1,04,002	300	2,54,483	2,870	18,002
Hijli Tidal Canal	—	—	—	91,000	83	—	1,401	55,036	—	56,005	654	4,331
Sone project	7,42,145	—	7,42,145	55,806	1,671	1,715	32,234	5,37,701	2,207	2,34,864	2,780	1,10,064
Total Major Irrigation works.	10,75,875	—	10,75,875	3,06,686	4,275	1,715	77,008	16,34,080	2,613	15,30,127	15,194	1,78,363
MINOR WORKS AND NAVIGATION.												
Works for which capital and revenue accounts are kept.												
Saran project	938	—	938	—	12	—	439	1,853	2,162	—1,008	34	136
Orissa Coast Canal	—	—	—	64,094	—	—	1,937	66,031	91	66,040	1,315	6,506
Calcutta and Eastern Canals.	—	—	—	4,80,700	—	—	12,003	4,42,437	454	4,48,003	4,100	22,715
Total	938	—	938	4,84,888	12	—	15,067	5,10,870	2,707	5,07,113	5,510	29,461
Works for which only revenue accounts are kept.												
Nadia Rivers	—	—	—	1,41,419	—	—	279	1,41,806	—	1,41,806	2,715	11,406
Gaighatta and Buxi Khali	—	—	—	—	—	—	820	820	—	820	408	5,911
Total	—	—	—	1,41,419	—	—	1,099	1,42,626	—	1,42,626	2,911	16,807
Works for which neither capital nor revenue accounts are kept.												
Eden Canal	20,074	—	20,074	—	—	—	576	20,200	50	20,200	—	—
Total Minor works and Navigation.	20,012	—	20,012	6,30,222	12	—	16,782	4,63,636	2,777	4,79,561	7,781	47,146
GRAND TOTAL	11,04,207	—	11,04,207	10,08,099	4,287	1,715	94,427	22,01,078	7,890	21,09,986	22,915	2,38,611

(a) Irrigation Revenue Officers specially
 (b) Rupees 4,064 was expended during the year on account of the temporary establishment sanctioned

IIC.

STATEMENT SHOWING THE FINANCIAL RESULTS OF IRRIGATION WORKS IN BENGAL
FOR 1894-95, BASED ON ACTUAL RECEIPTS.*Principal results of operations for the year ended 31st March 1895.*

IRRIGATION WORKS.	Direct and indirect outlay to end of 1894-95.	Gross receipts, direct and indirect, from all sources (less refunds).	Working expenses, direct and indirect.	Net revenue (excluding charges for interest).	Percentage of net revenue on capital outlay to end of the year.	Interest at 4 per cent. on direct capital outlay at commencement of year and at 2 per cent. on outlay during the year.	SURPLUS REVENUE AFTER PAYING INTEREST ON DIRECT CAPITAL OUTLAY.		EXCESS CHARGES, INCLUDING INTEREST ON DIRECT CAPITAL OUTLAY.	
							Amount.	Percentage on total sum at charge.	Amount.	Percentage on total sum at charge.
1	2	3	4	5	6	7	8	9	10	11
MAJOR IRRIGATION WORKS.	Rs.	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.	
<i>In operation.</i>										
Hijili tidal canal ...	24,28,183	54,525	47,426	11,080	45	92,686	...	...	21,537	343
<i>In progress.</i>										
Orissa project ...	2,62,42,962	3,22,345	4,83,320	—1,50,975	deficit 58	10,19,322	...	...	11,70,797	446
Midnapore canal ...	84,45,469	2,94,423	2,24,564	69,869	83	3,30,451	...	...	2,60,594	309
Sone project ...	2,82,69,899	8,34,884	7,06,783	1,28,095	48	10,38,964	...	...	9,10,889	233
Total ...	6,40,26,311	15,20,127	14,62,049	58,076	—09	24,81,296	...	...	24,23,217	379
MINOR WORKS AND NAVIGATION.										
<i>In operation.</i>										
Saran project ...	6,26,753	—1,800	1,542	—2,342	deficit 48	...	...	...	...	...
Calcutta and Eastern canals.	58,58,522	4,48,003	3,89,287	1,68,736	286	...	...	...	...	...
Nadia rivers ...	...	1,41,698	1,40,879	819	...	...	...	...	...	...
<i>In progress.</i>										
Orissa Coast canal ...	44,27,468	65,940	87,071	—21,131	deficit 47	...	...	...	...	...
Gheighatta and Buxi Khals.	...	890	28,307	—27,487	...	...	...	...	...	...
<i>Abandoned or held in abeyance.</i>										
Tirhut project ...	6,06,075	...	...	...	...	...	...	...	...	...
Damodar project ..	1,60,180	...	...	...	...	...	...	...	...	...
Total ...	1,12,58,992	6,49,661	5,47,066	1,02,595	—91	...	...	...	...	...

IIIC.

DEMANDS AND REALIZATIONS DURING THE YEAR 1894-95.

Irrigation Works.	Balance of demand unrealized at com- mencement of year.	Demands of the year.	Total.	Deduct remissions not including cash refunds.	Net total.	Deduct amount un- realized at end of the year.	Actual receipts of the year.
1	2	3	4	5	6	7	8
<i>Major Irrigation Works.</i>	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Orissa project ...	63,350	3,07,971	3,71,321	6,109	3,65,212	32,140	3,33,072
Midnapore Canal ...	7,027	2,92,816	2,99,843	612	2,99,231	4,549	2,94,682
Hijili Tidal Canal ...	...	58,525	58,525	...	58,525	...	58,525
Bone project ...	1,01,853	7,30,803	8,32,656	4,091	8,28,565	40,809	7,87,756
Total ...	1,72,235	14,40,115	16,12,350	10,812	16,01,538	77,498	15,24,040
<i>Minor Works and Navigation.</i>							
Saran project ...	(a) 6,459	(a) 444	(a) 6,903	...	(a) 6,903	(a) 5,621	(a) 1,382
Orissa Coast Canal ...	...	66,031	66,031	...	66,031	...	66,031
Calcutta and Eastern Canals ...	...	4,43,457	4,43,457	...	4,43,457	...	4,43,457
Nadia Rivers ...	...	1,41,698	1,41,698	...	1,41,698	...	1,41,698
Gaighatta and Buxi Khals ...	...	820	820	...	820	...	820
Eden Canal ...	81,541	36,603	70,144	6,725	63,419	33,169	30,250
Total ...	38,000	6,91,053	7,29,053	6,725	7,22,328	38,690	6,83,638
GRAND TOTAL ...	2,10,235	21,31,168	23,41,403	17,537	23,23,866	1,16,188	22,07,678

NOTE.—Refunds of revenue have not been deducted from actual receipts of the year.
(a) These figures have been supplied by Examiner. They do not agree with those given by Superintending Engineer in his Revenue Report of the Saran Canals for 1894-95.

IV

STATEMENT SHOWING THE FINANCIAL RESULTS OF IRRIGATION WORKS IN

Principal results of operations for

IRRIGATION WORKS.	Capital out- lay (direct and indirect) to end of the year.	REVENUE ASSESSED				
		DIRECT ASSESSED				
		Occupier's rate (water rates.)	Owner's rate.	Plantations.	Water-power.	Navigation.
1	2	3	4	5	6	7
MAJOR IRRIGATION WORKS.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Orissa project	2,62,43,062	1,76,202	.....	2,514	.....	1,17,608
Midnapore canal	84,45,409	1,04,875	.....	55	.....	1,91,078
Hijili tidal canal	24,28,181	.....	.....	85	.....	67,089
Sone project	2,69,09,599	6,56,332	.....	1,671	1,715	58,850
Total major irrigation works ...	6,40,26,311	9,37,409	.....	4,275	1,715	3,64,625
MINOR WORKS AND NAVIGATION.						
<i>Works for which Capital and Revenue accounts are kept.</i>						
Saran project	6,96,753	.....	.....	12	.....	.....
Orissa Coast canal	44,57,463	.....	.....	.....	.....	64,094
Calcutta and Eastern canals ...	53,58,522	.....	.....	.....	.....	4,30,769
Total	1,05,12,738	.....	.....	12	.....	4,94,863
<i>Works for which only Revenue accounts are kept.</i>						
Nadia rivers ... ..	.....	.....	.....	.....	.....	1,41,419
Gaighatta and Buxi Khals ...	.....	.....	.....	.....	.....	.....
Total ... ..	.....	.....	.....	.....	.....	1,41,419
<i>Works for which neither Capital nor Revenue accounts are kept.</i>						
Eden canal ... ..	.....	38,121	.....	.....	.....	.....
Total minor works & navigation	1,05,12,738	38,121	.....	12	.....	6,36,282

N.B.—The assessed revenue means the revenue assessed on the irrigation of the year independently of whether the demand statements are

G.

BENGAL FOR THE YEAR ENDED 1894-95, BASED ON ASSESSMENTS OF THE YEAR.

The year ended 31st March 1895.

DURING THE YEAR.

REVENUE.		Refunds of re-venue.	Gross assessed re-venue,—less re-funds.	Indirect revenue—Land revenue due to operations of canals.	Grand total.	Working expenses, direct and indirect.	Net assessed revenue of the year.	Percentage on capital outlay to end of the year.
Miscellaneous.	Total.							
8	9	10	11	12	13	14	15	16
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
21,807	3,18,131	727	3,17,404	.....	3,17,404	4,83,320	(—)1,65,916	·63 deficit.
22,253	2,58,261	259	2,58,002	.....	2,58,002	2,24,564	83,438	·39
1,401	58,525	...	58,525	.....	58,525	47,426	11,099	·46
32,284	7,50,802	2,927	7,47,875	.....	7,47,875	7,06,739	41,136	·15
77,095	13,85,719	8,913	13,81,806	.....	13,81,806	14,62,049	(—)80,243	·12 deficit.
432	444	3,183	(—)2,738	.....	(—)2,738	1,542	(—)4,280	·61 deficit.
1,937	66,031	91	65,940	.....	65,940	87,071	(—)21,131	·47 deficit.
12,688	4,43,457	454	4,43,003	.....	4,43,003	2,89,267	1,53,736	2·86
15,057	5,09,932	3,727	5,06,205	.....	5,06,205	3,57,880	1,48,325	1·41
279	1,41,698	.....	1,41,698	.....	1,41,698	1,40,879	819	.....
820	820	.....	820	.....	820	28,307	(—)27,487	.....
1,099	1,42,518	.....	1,42,518	.....	1,42,518	1,69,186	(—)26,668	.....
576	38,697	50	38,647	.....	38,647	52,738	(—)14,091	.....
16,732	6,91,147	3,777	6,87,370	.....	6,87,370	5,79,804	1,07,566	.....

completed within the year or not. The actual amount of the demand statements issued during the year is given in column 3 of Table III.

DESCRIPTION AND QUANTITIES OF GOODS, &c., CARRIED ON CANALS IN BENGAL DURING THE YEAR 1894-95.

DESCRIPTION OF Goods, &c.	ORISSA CANALS.				MIDNAPPORE CANAL.				HUPIL TIDAL CANAL.				SOME CANALS.							
	TOTAL.		PRIVATE.		TOTAL.		PRIVATE.		TOTAL.		PRIVATE.		TOTAL.		PRIVATE.					
	Quantity—Tons.	Value.	Quantity.	Value.	Quantity—Tons.	Value.	Quantity.	Value.	Quantity—Tons.	Value.	Quantity.	Value.	Quantity—Tons.	Value.	Quantity.	Value.				
BOAT TRAFFIC.																				
Cotton, raw and man- ufactured.	Up.	Down.	Total.	Tons.	Value.	Up.	Down.	Total.	Tons.	Value.	Up.	Down.	Total.	Tons.	Value.	Up.	Down.	Total.	Tons.	Value.
Woolen goods, raw	295	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Woolen goods, man- ufactured.
Tea and tans
Rice or wheat
Other food-grains
Flax and skins
Liquors
Metals
Oil-seeds
Provisions
Salt
Spices
Sugar
Opium
Building materials
Manufactures
Timber
Flax
Flaxseed
Coal and coke
Iron
Treasure
RAIL TRAFFIC.																				
Timber in logs
Squared timber
Planks, broad gauge
Planks, metre gauge
Scantlings
Poles
Firewood
Bamboos
Doors
Total
Grand Total

IID—included.

DESCRIPTION AND QUANTITIES OF GOODS, &c., CARRIED ON CANALS IN BENGAL DURING THE YEAR 1894-95.

[illegible]

No. IF.

STATEMENT SHOWING THE WATER-RATES PER ACRE IN FORCE ON
CANALS IN BENGAL DURING 1894-95.

CANALS.	Description of leases and crops.	OCCUPIER'S RATES PER ACRE.	
		Flow irrigation.	Lift irrigation.
1	2	3	4

ORISSA CIRCLE.

ORISSA CANALS ...	I.—For the whole irrigable or rice cultivated area of any village, if application is made for a lease of five years ...	Rs. A. P.	Rs. A. P.
	<i>For the Rice Crop.</i>	1 8 0	1 0 0
	II.—For any fractional area of a village or for other term ...	3 0 0	2 0 0
	<i>For Cold Weather Crops.</i>		
	III.—Dalwa rice ...	1 8 0	1 0 0
	IV.—For cotton, tobacco, haldi, ginger, wheat, vegetable, indigo and all garden produce grown in villages the rice-lands of which are leased under Rule I ...	1 0 0	0 10 0
	V.—For the above produce when grown in villages the rice-lands of which are not leased under Rule I ...	2 0 0	1 8 0
	VI.—For linseed, oil-seeds, dāl and all pulses grown in villages the rice-lands of which are leased under Rule I ...	0 8 0	0 5 0
	VII.—For the above produce when grown in villages the rice-lands of which are not leased under Rule I ...	1 0 0	0 10 0
	<i>For Perennial Crops.</i>		
	VIII.—For sugarcane ...	3 0 0	4 0 0
	IX.—The charge for filling tanks is Re. 1 per 10,000 cubic feet of water used.		

SOUTH-WESTERN CIRCLE.

For the Rice Crop.

For water supplied between June and November—whether by flow or lift—

MIDNAPORE CANAL.		Rs. A. P.	
	For five year leases ...	1 8 0	per acre for each season.
	For one year lease or for water supplied on a provisional license for which a permit for a term of years is not subsequently issued ...	8 0 0	per acre.
	Provided that the leases, whether new or renewals, required for shorter terms than five years in order to develop the system of blocks shall be charged ...	1 8 0	per acre.
	Otherwise, in addition to the rate of Re. 1-8 an extra rate of 12 annas per acre shall, in the first year only, be charged on leases for less than five and more than one year		
	<i>For Winter Crops.</i>		
	For supply of water, when available ...	2 8 0	per acre per season.
	For unauthorized use of canal water ...	5 0 0	per acre or such less rate as may be sanctioned by the Deputy Collector.

SOUTH-WESTERN CIRCLE—concluded.

For supply of water for manufacturing or other purposes Rs. 1 to be charged for each 10,000 cubic feet or part of 10,000 cubic feet supplied.

The same charge will be made if water is taken into a tank without authority or used in an unauthorized manner.

Tanks may be filled with canal water without charge wherever water can be made available without injury to the cultivation dependant on any canal under certain conditions noted in Rule 31.

		Per bigha.		
		Rs.	A.	P.
EDEN CANAL.	I.—Long leases entered into before the 1st October 1895, per season ...	0	4	0
	II.—Long leases entered into after the 1st January 1896, per season ...	0	5	0
	III.—Extra charge for long leases entered into during the irrigation season, i.e. between 1st June and 1st October in any year, in addition to the rates mentioned in I and II, for the first year only ...	0	2	0
	IV.—Season leases, kharif, per season ...	0	8	0
	V.—Single waterings outside the area commanded in each watering ...	0	4	0
	VI.—Season leases, rabi, sugarcane and potatoes and other crops ...	1	0	0
	Boro rice, per season ...	0	8	0
	VII.—Unauthorized irrigation—			
	Kharif season ...	1	0	0
	Rabi season ...	2	0	0

or such lower rates as may be fixed by the Canal officer.

* No rates shall be imposed on lands irrigated without permits beyond the area shown as commanded on the map referred to in Rule 1.

SONE CIRCLE.

SONE CANALS.

The following schedule is in force with reference to long leases taken in, and previous to the year 1891-92:—

Five-year Leases.

CLASS.	Nature of crop.	IRRIGATION FEE—		
		Cottah.	Bigha.	Acre.
1	2	3	4	5
		Rs. A. P.	Rs. A. P.	Rs. A. P.
	For all crops ...	0 1 0	1 4 0	2 0 0

The following schedules are in force with reference to all leases taken during 1894-95:—

SCHEDULE No. I.

Leases for a term of years.

FOR WATER SUPPLIED BETWEEN THE 25TH OF JUNE OF ONE YEAR AND THE 25TH MARCH OF THE NEXT.	Flow or Lift.		
	Rate per acre.	Rate per bigha.	Rate per tenth of a bigha.
1	2	3	4
	Rs. A. P.	Rs. A. P.	Rs. A. P.
For leases for seven years—all crops ...	2 0 0	1 4 0	0 2 0
" " for three years " ...	2 8 0	1 9 0	0 2 6

SCHEDULE No. II.

Season Leases (Kharif).

NAME OF CROP.	Date of supply.	FLOW OR LIFT.		
		Rate per acre.	Rate per bigha.	Rate per tenth of a bigha.
1	2	3	4	5
Rice and sugarcane for kharif season only	25th June to 25th October.	Rs. A. P. 8 0 0	Rs. A. P. 1 14 0	Rs. A. P. 0 8 0
Bhadoi, serua rice or any other crops ...	25th June to 15th October.	Rs. A. P. 2 8 0	Rs. A. P. 1 9 0	Rs. A. P. 0 2 6

SCHEDULE No. III.

Season Leases (Rabi).

TIME OF SUPPLY.	Locality.	FLOW.			LIFT.		
		Per acre.	Per bigha.	Per tenth of a bigha.	Per acre.	Per bigha.	Per tenth of a bigha.
1	2	3	4	5	6	7	8
15th October to 25th March.	Water supplied for all crops, including sugarcane, from distributaries open for kharif irrigation.	Rs. A. P. 2 0 0	Rs. A. P. 1 4 0	Rs. A. P. 0 2 0	Rs. A. P. 1 8 0	Rs. A. P. 0 15 0	Rs. A. P. 0 1 6
25th October to 25th March.	Water supplied for all crops, including sugarcane, from distributaries or parts of distributaries from which rabi irrigation only is allowed.	1 8 0	0 15 0	0 1 6	1 0 0	0 10 0	0 1 0

SCHEDULE No. IV.

Season Leases (Hot-Weather).

	FLOW OR LIFT.		
	Per acre.	Per bigha.	Per tenth of a bigha.
1	2	3	4
For water supplied between the 25th March and the 25th June, or at the option of the applicant, between the 25th of February and the 25th of May, for all crops.	Rs. A. P. 4 0 0	Rs. A. P. 2 8 0	Rs. A. P. 0 4 0
When water can only be supplied for a part of the season, for each watering.	1 8 0	0 15 0	0 1 6

In the case of charges under schedules I to IV, any smaller area than one-tenth of a bigha will be charged as one-tenth. The bigha contains 27,225 square feet.

SCHEDULE No. V.

For Water supplied by Volume in the Kharif Season.

For water supplied between the 1st of September and the 31st October Rs. 4 for a calculated discharge of one cubic foot per second for twelve hours. For less than a cubic foot per second or less than twelve hours a proportionate charge shall be made, but a fraction of less than one-sixteenth shall be charged as one-sixteenth.

SCHEDULE No. VI.

For Water supplied by Volume to fill Ahars.

For water supplied between the 1st of November and the 25th of March, Rs. 1 for a calculated discharge of one cubic foot per second for twelve hours. For less than a cubic foot per second or less than twelve hours a proportionate charge shall be made, but a fraction of less than one-sixteenth shall be charged as one-sixteenth.

SARAN CANALS.

		Per acre.
		Rs. A. P.
For water supplied between the 1st April and 15th June	...	2 8 0
Ditto from 15th June to 30th October	...	1 8 0
Ditto from 1st November to 31st March	...	1 0 0

For water taken without previous application or agreement a further rate of Rs. 1 per acre may be charged in addition to the rates noted above.

List of Officers in charge of Irrigation Circles and Divisions during the year 1894-95.

Circle or Division.	Name of Officer.	Period of charge.
1	2	3

SECRETARIAT.

Secretary, Irrigation Department.	Mr. C. W. Odling	From 1st April 1894 to 11th March 1895. [On privilege leave from 1st April to 2nd May 1894.]
Ditto	Lieut.-Col. A. D. McArthur, R.E.	" 1st April to 1st May 1894. (Officiating.)
Ditto	Ditto	" 12th March to 31st March 1895. (Officiating.)
Under-Secretary, Irrigation Department.	Mr. G. C. Maconchy	" 1st April 1894 to 31st July 1894.
Ditto	" E. H. Stephen	" 1st August 1894 to 28th February 1895.
Ditto	" O. C. Lees	" 1st to 31st March 1895.

SUPERINTENDING ENGINEERS IN CHARGE OF CIRCLES.

South-Western Circle	Lieut.-Col. A. D. McArthur, R.E.	From 2nd May 1894 to 11th March 1895.
Ditto	Mr. D. B. Horn	" 1st April to 1st May 1894. (Officiating.)
Ditto	Ditto	" 12th to 31st March 1895 (officiating), with the rank of Superintending Engineer, 2nd class, temporary.
Orissa Circle	Mr. W. Connan	" 1st April 1894 to 9th December 1894.
Ditto	" A. J. Hughes	" 10th December 1894 to 17th March 1895.
Ditto	" W. A. Inglis	" 18th to 31st March 1895.
Sone Circle	" B. B. Buckley	" 1st April 1894 to 31st March 1895.

EXECUTIVE ENGINEERS IN CHARGE OF DIVISIONS.

SOUTH-WESTERN CIRCLE.

Nadia Rivers Division	Mr. M. J. J. P. Norman	From 1st April 1894 to 31st March 1895.
Coasse Division	" H. Barlow	" 1st April 1894 to 31st March 1895.
Northern Drainage and Embankment Division.	" T. M. L. Thompson	" 1st April 1894 to 31st March 1895.
Circular and Eastern Canals Division.	" J. W. Fox, Honorary Assistant Engineer.	" 1st April 1894 to 8th November 1894. (Officiating.)
Ditto	Ditto	" 12th to 31st March 1895. (Officiating.)
Ditto	" D. B. Horn	" 2nd November 1894 to 11th March 1895.
Balasore Division	" A. Hayes	" 1st April 1894 to 10th August 1894.
Ditto	" P. J. Jacobs	" 11th August 1894 to 15th October 1894.
Ditto	" C. A. White	" 20th October 1894 to 31st March 1895.

ORISSA CIRCLE.

Acquapada-Jajpur Division	Mr. M. H. Arnott	From 1st April 1894 to 31st March 1895.
Brahmini-Birtuari Division	" E. E. Carter	" 1st April 1894 to 31st March 1895.
Manasadi Division	" T. H. Clowes	" 1st April 1894 to 31st March 1895.

SUPPLEMENT TO THE CALCUTTA GAZETTE, DECEMBER 18, 1895. 3017

List of Officers in charge of Irrigation Circles and Divisions during the year 1894-95—conold.

Circle or Division.	Name of Officer.	Period of charge.
1	2	3

EXECUTIVE ENGINEERS IN CHARGE OF DIVISIONS—conold.

Sone Circle.

Arrah Division	...	Mr. C. H. DeMello	...	From 1st to 9th April 1894 and from 10th May 1894 to 31st March 1895.
Ditto	...	" F. F. A. Cowley	...	" 10th April to 9th May 1894.
Buxar Division	...	" T. Butler	...	" 1st April 1894 to 31st March 1895.
Eastern Sone Division	...	" A. S. Thomson	...	" 1st April 1894 to 8th March 1895.
Ditto	...	" G. L. Searight	...	" 9th to 31st March 1895.
Gandak Division	...	" H. H. Green	...	" 1st April 1894 to 31st March 1895.
Dohri Workshops Division	...	" J. E. Swinden	...	" 1st to 20th April 1894.
Ditto	...	" H. E. Williamson (Supervisor).	...	" 1st to 16th May 1894.
Ditto	...	" G. C. Stawell	...	" 16th May 1894 to 31st March 1895.

CANAL REVENUE OFFICERS.

Deputy Collector, Revenue Division, Sone Canals.	...	Mashti S. M. Nasiruddin	...	From 1st April 1894 to 31st March 1895.
Deputy Collector, Revenue Division, Orissa Canals.	...	Babu Jagdum Sahai	...	" 1st April 1894 to 11th November 1894 and from 2nd January 1895 to 31st March 1895.
Deputy Collector, Revenue Division, Orissa Canal.	...	" Gopal Bullay Mitter	...	" 12th November 1894 to 1st January 1895.
Deputy Collector, Revenue Division, Midnapore Canals.	...	" Raj Mohun Chuckerbutty.	...	" 1st April 1894 to 31st March 1895.
Superior, Calcutta Canals.	...	Mr. W. E. Cooksey	...	" 1st April 1894 to 31st March 1895.

NAME.	Circle or Division.	NUMBER OF DAYS—		REMARKS.
		On duty.	On tour.	
1	2	3	4	5
Assistant Engineers—consolidated.				
Mr. J. Zorab	Balasore	350	161	On 15 days' privilege leave.
" A. H. C. MacCarthy	Cossye	329	145	On 36 days' privilege leave.
" J. W. Foy	Circular and Eastern Canals.	123	46	
Rai Bahadur Bama Churn Pramanik	Northern Drainage and Embankment.	805	266	
Sub-Engineers.				
Rai Sahib Satowry Chatterjee	Eastern Sone	365	40	Principal works lie at head-quarters.
Babu Chander Bhushan Dutt	Gandak	365	60	Ditto ditto.
" Tarani Charan Sircar	Dehri Workshops	365	127	Ditto ditto.
Mr. H. E. Williamson	Ditto	365	31	Ditto ditto.
Rai Prasanno Kumar Pal	Acquapadda-Jajpur	365	270	
Mr. J. J. Atkinson	Balasore	319	72	On 49 days' privilege leave.
Babu Gopal Chander Ghose	Cossye	365	193	
" Rakhal Das Roy	Circular and Eastern Canals.	350	124	
Rai Sahib Gopal Chander Daw	Northern Drainage and Embankment.	365	236	
Mr. S. Street	Jangipur Toll Office	365	...	
Babu Rakhal Das Chatterjee	Nadia Rivers	305	142	
Supervisors.				
Babu Kanti Chander Banerjee	Arrah	214	181	On 2 months' privilege leave. Transferred to the Eastern Sone Division, which he joined on the 10th November 1891. Re-transferred to the Arrah Division, which he joined on the 20th February 1895.
Mr. C. M. S. Burke	Gandak	365	119	
Babu Ashutosh Singh	Do.	83	15	Furlough for 10 months from 23rd June 1894.
" Rudra Prasanno Singh	Do.	275	67	On privilege leave for 71 days.
" Mohendra Nath Sircar	Arrah	334	242	On 31 days' privilege leave.
" Harri Churn Mukerjee	Mahanadi	365	230	
Mr. C. A. Marchant	Ditto	365	34	Workshop Foreman.
Babu Pran Krishna Sen	Acquapadda Jajpur	338	206	On privilege leave for 27 days.
" Suresh Chander Gangooly	Balasore	351	198	On privilege leave for 14 days.
" Dhakshina Ranjan Mukerjee	Circular and Eastern Canals.	365	243	
" Ashutosh Mitter	Ditto	352	210	
Jogendra Lal Chatterjee	Ditto	277	140	Died on the 18th January 1895.
" Lokanath Mitter	Nadia Rivers	305	109	
Overseers.				
Babu Satya Ranjan Khastagir	Dehri Workshops	115	97	Joined the Division on the 27th November 1894.
" Kali Kumar Roy	Eastern Sone	365	101	Principal works lie at head-quarters.
" Rajendra Lal Sircar	Ditto	68	50	
" Rajendra Lal Sircar	Arrah	286	243	
" Basant Kamaal Das	Buxar	133	49	Sick leave for 5 months from 1st September 1894, after which his services were dispensed with.
" Jagat Narain	Gandak	26	13	Joined the Division on the 1st June 1894.
" Khirode Chunder Mookerjee	Dehri Workshops	288	232	On 30 days' privilege leave.
" Anghore Chunder Chatterjee	Ditto	99	51	Joined the Division on the 15th December 1894.
" Bhushan Chunder Banerjee	Mahanadi	365	51	Principal works lie at head-quarters.
" Upendramach Mukerjee	Ditto	344	285	On 20 days' leave.
" Soshi Bhushan Mozumdar	Ditto	365	265	
" Surendranath Basu	Brahmini-Dyturni	365	187	
" Bankim Krishna Ghose	Ditto	365	189	
" Troylucko Nath Mozumdar	Ditto	365	391	
" Saroda Churn Mitra	Ditto	365	223	
" Benku Bhary Mookerjee	Acquapadda-Jajpur	365	24	Principal works lie at head-quarters.
" Krishnachand Banerjee	Ditto	275	207	On 90 days' privilege leave.
Mr. A. E. Hoffermau	Balasore	305	126	
Babu Kirty Bas Maithi	Cossye	365	46	
" Mohit Kumar Chatterjee	Do.	365	62	
" Rama Nath Sircar	Do.	365	123	
" Rajendra Nath Mookerjee	Circular and Eastern Canals.	123	63	Joined the Division on the 21st November 1894.
Mr. P. O. Wight	Ditto	226	226	Transferred to the Northern Drainage and Embankment Division, which he joined on the 18th December 1894. On privilege leave for 2 months from the 3rd January 1895. Transferred to the Calcutta Workshops Division on the expiration of his leave.
Babu Mohiny Mohan Lahiri	Northern Drainage and Embankment.	220	196	On 45 days' privilege leave.
Khetter Mohan Palit	Ditto	335	...	On 30 days' privilege leave.
Akhoy Krishna Bose	Nadia Rivers	307	175	On 58 days' privilege leave.

Statement showing Inspections of Offices by Superintending and Executive Engineers during the year 1894-95.

NAME OF OFFICER.	DIVISIONAL OFFICERS.		SUBDIVISIONAL OFFICERS.		REMARKS.
	Number in circle.	Number inspected during year.	Number in circle.	Number inspected during year.	
1	2	3	4	5	6
Superintending Engineers.					
W. Connan, Superintending Engineer, Orissa Circle.	4*	1	16	†6	* Inclusive of Revenue Division.
R. B. Buckley, Superintending Engineer, Sone Circle.	6*	5	27	3	† Of these, 3 inspected by Mr. Hugbee.
Lieutenant-Colonel A. D. McArthur, Superintending Engineer, South-Western Circle.	6*	6	28	1	
Executive Engineers.					
T. H. Clowes, Executive Engineer, Mahanadi.	8	...	
R. E. Carter, Executive Engineer, Brahmani-Byturni.	5	...	
M. H. Arnott, Executive Engineer, Aquapada.	3	...	
C. H. DeMello, Executive Engineer, Arrah.	6	...	
T. Butler, Bazar	5	...	
G. C. Stawell, Dohri Works	6	...	
A. S. Thomson, Eastern Sone	5	...	
H. H. Green, Gaudak	6	3	
H. Buxlow, Coraie	5	4	
A. Hayes, Belasore	6	6	
M. J. J. P. Norman, Nadia Rivers	4	3	
T. M. L. Thompson, Northern Drainage and Embankment.	5	4	
J. W. Fox, Circular Canals			

**RESOLUTION ON THE REPORTS OF THE PROGRESS OF SURVEYS
AND SETTLEMENTS DURING THE YEAR ENDING 30TH
SEPTEMBER 1895.**

REVENUE DEPARTMENT—LAND REVENUE.

Calcutta, the 14th December 1895.

RESOLUTION—No. 5421.

READ—

Letter No. 1244A., dated the 6th December 1895, from the Board of Revenue, submitting the Reports of the Director of the Department of Land Records and Agriculture on Settlements and Land Records, and the Deputy Surveyor-General on Surveys, in Bengal, for the year ending the 30th September 1895.

THE Lieutenant-Governor is glad to be able to review the Settlement and Survey Reports for the survey year ending 30th September, 1895, before his term of office expires.

The Reports.

He has to acknowledge the punctuality with which, in accordance with his wishes, as expressed in the Resolution of the 13th April 1895 on the Reports for 1893-94, Mr. Macpherson and Colonel Sandeman have collected the materials from the officers under them and submitted their reports, and he is obliged to the Board for sending them on to Government with their review so expeditiously. His Honour trusts that the Settlement Officers will find it a relief to have done with their accounts of the work of a previous year before embarking on the cold-weather field operations of the current year; and that in future the same commendable promptness may be observed by all concerned. The reports are not so long in either case as in the previous year: chiefly, because there have been fewer points of principle for discussion and record. But they omit nothing which deserves to be included for comment and future reference.

2. Colonel J. E. Sandeman, I.S.C., was Director of Bengal Surveys throughout the year, but was absent on leave from 19th April to the end of September 1895, during which

Charge and inspection.

time the current duties of his office were conducted by Captains Fleming and Hodgson, under the orders of Colonel Wilkins, Officiating Deputy Surveyor-General. Since 25th March, Colonel Sandeman has been Deputy Surveyor-General, and his direct connection with Bengal surveys has ceased. He was on tour for 93 days during the first six months of the year, inspecting the work in progress in Bihar, Orissa, the Darjeeling Terai, and the Kolhan. Mr. W. C. Macpherson, C.S., was in charge of the office of Director of Land Records and Agriculture throughout the year, and altogether spent 148 days on tour, distributed over nine months of the year. He visited all the settlements of importance under his charge, and attended several conferences, besides being much engaged with the Land Records Maintenance Act, III (B.C.) of 1895.

The Lieutenant-Governor inspected the settlement work in North Bihar and Gaya in November 1894, the settlement office at Muzaffarpur in August 1895, and discussed the Orissa settlement work at Chandbali in July 1895. The Member of the Board of Revenue in charge of the Department was unable to inspect any of the major settlements during the year.

3. During the year the Board's Survey and Settlement Manuals of 1888 were revised and amalgamated into one

Survey and Settlement Manuals.

work by Mr. E. W. Collin, C.S., on special duty. Short rules for petty surveys and settlements were also drawn up by the same officer. The revised Manual has been issued for the guidance of Settlement Officers in the season now commencing, has been reviewed by the Board, and is now being finally issued with the approval of Government.

4. Colonel Sandeman has brought together in a convenient form (para-graph 36) the outturn in square miles year by year, and the total outturn for five years, of all kinds of survey, including record-writing. The whole area traversed by the theodolite (on which the survey of details on various scales is based) has covered 18,822½ square miles, i.e., about one-eighth of the area of the whole Province. The figures of the detail survey work are as follows:—cadastral survey with records, 12,159½ square miles; cadastral survey without records, 1,034 square miles; skeleton boundary survey, 1,752 square miles; city survey, 15 square miles; topographical, 1,737 square miles; forest, 501 square miles: aggregate outturn, 17,198½ square miles. In the outturn of cadastral survey are included the revision of previous cadastral surveys of 958 square miles, and the revision of the previous records of 417 square miles.

5. Settlement work was in progress during the year under the control of the Director of Land Records in Districts containing the following areas:—(1) for revision of land revenue in temporarily-settled estates and Government estates, 7,813 square miles; (2) for survey and record of rights (not connected with settlement of land revenue) in estates other than wards' estates, 9,872 square miles; (3) for survey and record of rights in wards' estates, 760 square miles; total 18,445 square miles, as compared with 13,037 square miles in 1893-94, and 12,490 square miles in 1892-93. The following statement shows the general outturn and cost of survey-settlement work under the control of the two Directors during the year 1894-95, as compared with the three preceding years, according to the reports received (a):—

YEAR.	Traverse survey.	Skeleton boundary survey.	Forest survey.	Topographical survey.	Cadastral survey.	Record-writing.	Nil sketching.	Cost of survey.	Cost of settlement.	Total cost.
1	2	3	4	5	6	7	8	9	10	11
	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.	Rs.	Rs.	Rs.
1891-92	4,714	197	327	879	3,286	1,471	194	5,02,869	4,66,460	10,69,329
1892-93	5,321	1,947	.....	.....	3,074	2,000	.....	7,55,306	5,60,361	13,15,667
1893-94	5,485	175	.....	.....	3,754	3,037	.....	6,90,125	5,53,225	12,43,350
1894-95	5,091	23	.....	1,020	2,780	3,120	.....	6,04,304	6,97,155	13,01,459
Total	10,614	1,032	327	1,405	11,003	11,128	194	26,75,007	23,17,806	49,92,813

(a) Revised figures have been furnished in certain cases for previous years.

† Includes 363 square miles revision survey in Cuttack.

‡ Ditto revision survey of 115 square miles in Puri and 63 square miles in Gaya.

§ Ditto 424 square miles revision survey in Muzaffarpur.

|| Ditto 417 square miles ditto ditto.

The cost of survey and settlements incurred by Government from the beginning of the operations up to the 30th September 1895 in Orissa, Chittagong, and the Western Duars—the three principal areas which have been, and with the exception of the Duars still are, under settlement of land revenue—has increased from nearly 32 lakhs to nearly 36 lakhs of rupees. The expenditure in wards' estates on account of survey and settlement proceedings has been Rs. 71,147, Rs. 1,30,223, and Rs. 85,539 in the last three years. In private estates other than wards' estates, the expenditure was Rs. 5,94,144 in 1893-94, and has been Rs. 6,34,609 in 1894-95.

6. In the following paragraphs the progress made in the larger survey-settlements will be reviewed in the same order as in preceding years.

7. The Bihar survey was first taken in hand experimentally in the District of Muzaffarpur in 1885, soon after the passing of the Bengal Tenancy Act, but was stopped in 1886, when the survey party under Colonel Barron had completed—

	Sq. miles.
Traverse survey	803
Cadastral	414
Record-writing	414

Orders for the resumption of the work were received in September 1891, and a traverse party took the field on the 19th December 1891, but the full strength of the establishment was not at work until about the 10th January

10. The programme for the settlement staff in Muzaffarpur for the season 1894-95 was (1) to attest the records of about 758 square miles which had been dealt with by the survey staff in 1893-94, (2) to supervise the record-writing and decide boundary disputes in an area of 1,367 square miles, and (3) to complete the records of 370 square miles attested in 1893-94, and case-work in the area to be attested in 1894-95. The Settlement Officer, Mr. P. C. Lyon, had a staff of 14 Assistant Settlement Officers employed during the working season, and five during the recess. The record-writing was supervised by the Settlement Officer and five Assistant Settlement Officers, but Mr. Lyon writes that on account of ill-health and other causes the supervision was less continuous than he would have wished. The work of settling boundary disputes was not so heavy as in the previous year, the number of cases filed being 376, against 593 in 1893-94, although the area dealt with was much more extensive. Since the commencement of the operations, 1,267 of these disputes have been filed, of which 1,243 have been disposed of; and out of 67 appeals decided, the summary orders of the Revenue Officers have been upheld in 62, modified in 3 (1 by compromise) and reversed in two cases. The Lieutenant-Governor agrees with the Director of Land Records and the Settlement Officer in considering these results to be very satisfactory. Nine officers were employed on attestation work, the programme for which was nearly completed, the average outturn for each officer being 22,000 plots per mensem. This is a better result than that of 1893-94, when the average outturn slightly exceeded the standard rate of 20,000 plots per mensem, and is specially satisfactory considering that in Muzaffarpur landlords are numerous, tenancies small, and disputes very frequent. One Assistant Settlement Officer was employed exclusively on case-work, and four more did this work during the recess. Cases under sections 104 and 105 of the Bengal Tenancy Act were more numerous than in the preceding year. The figures given in columns 7 to 9 of the statement above relate for the most part to rents settled on applications made by private landlords or by tenants. Of the 435 cases disposed of during the year in the Muzaffarpur district, 111 were filed by European indigo planters, out of which 69 were subsequently withdrawn "as having been filed by mistake for very small claims." The total number of tenants for whom fair rents have been settled from the beginning is 5,632, which is only a little more than one per cent. of the 464,872 tenants for whom existing rents have been recorded, and the increase of rent on the total attested rental is less than $\frac{1}{2}$ per cent., or 8 annas in Rs. 100. Of the enhancements hitherto decreed, Rs. 3,535 have been given on the ground of increased area, and only Rs. 123 on that of prevailing rate. In the Government villages in the riverain area, 29 cases affecting 505 tenants were disposed of, and the rents raised from Rs. 1,487 to Rs. 2,847; but the increase is not real, as the farmers and raiyats had colluded and caused figures far below the reality to be entered as existing rents. Up to the end of 1894-95, 14 appeals against fair rent decisions had been preferred; and out of 13 decided, the decisions of the Revenue Officers had been upheld in 11 cases and modified in two. Although the operations extended over a larger area, the number of suits under section 106 fell from 952 in 1893-94 to 808 in 1894-95. This is attributed to the orders of the Government of India, No. $\frac{2820}{24}$, dated the 1st October 1894, prescribing *ad valorem* fees, and to instructions issued by the Settlement Officer as to a charge of a court-fee of Rs. 10 on all such plaints. Mr. Lyon's instruction is understood to have the support of the Special Judge; but the subject is under consideration.

11. With regard to cases under section 106 of the Tenancy Act, Mr. Lyon writes as follows:—

"In my Annual Report last year I gave some reasons for a respectful protest against the work thrown upon us by section 106 of the Bengal Tenancy Act, and it is for those reasons that I have said above that I do not think we should cheapen this form of litigation in our Courts. The Special Judge has again reiterated his ruling that we have no concern, in dealing with these cases, with questions of right and title, and in his advice as to the levy of a court-fee of Rs. 10 in all cases, on the ground that it is impossible to determine, for the purposes of an *ad valorem* fee, the value of our decisions, he has clearly intimated that those decisions differ in many respects from the decrees of Civil Courts. At the same time, the ruling of the High Court in the case of Pandit Sirdar renders practically valueless all our

proceedings in the very numerous cases between landlord and landlord and raiyat and raiyat. It does not seem to me that we act with due consideration for the interests of the disputants in encouraging them to embark on expensive litigation in our Courts for the purpose of obtaining decrees which will certainly not be looked upon with favour by the Civil Courts, even under the most favourable circumstances, and which will in many cases be treated by them as of no legal value whatsoever. I think that we should confine our settlement proceedings to the preparation of a record which will carry a presumption in favour of the correctness of the entries in it, and that all our enquiries should be summary in their nature and untrammelled by the procedure of Courts whose decisions are decrees. And I fully believe that all parties concerned would welcome such a change, the present law having failed already to give satisfaction to parties who wish for a final settlement of their disputes and an end to litigation."

This decision of the High Court, that the powers of Settlement Officers to settle disputes with the authority of a Civil Court under section 106 of the Tenancy Act are confined to disputes between landlord and tenant and do not extend to disputes between landlord and landlord and tenant, is a serious blow to the completeness of the record of rights, and defeats the intention of the Legislature. It is one of several points as to which Sir Charles Elliott has drawn up a Minute showing in what respects amendment of the law is necessary in order to make the settlement procedure simple and efficient.

12. In consequence of ill-health, the Settlement Officer, Mr. E. G. Colvin, had to take leave from the 23rd February 1895, and Mr. Lyon was placed in charge of this district as well as of Saran, in addition to his duties as Settlement Officer of Muzaffarpur. During the greater part of the field season of 1894-95, when the settlement staff was at its maximum, nine Assistant Settlement Officers were employed in Champaran, four on record-writing, four on attestation, and one on case-work; and three were engaged on case-work throughout the recess. The programme of work was (1) the attestation of the records of 500 square miles, (2) supervision of record-writing and disposal of boundary disputes in 1,168 square miles, and (3) case-work under sections 104, 105, and 106 in the 500 square miles to be attested. Record-writing was inspected in 542 villages, and orders passed on 362 boundary disputes. Twenty-one appeals in village boundary cases were decided, in 19 of which the orders of the Revenue Officers were upheld, in one case modified, and in one reversed. The attestation programme was practically completed before the end of April, and the average outturn of work for each officer per mensem amounted to about 21,500 plots. The following is an extract from the Settlement Officer's report:—

"On the whole the attestation work was carried through with a remarkable absence of friction. A large proportion of the area dealt with was held by three large indigo concerns; and very great assistance was given to us in the preparation of the records by the managers and assistants of the factories. The attendance both of landlords and raiyats was good; and with the help of carefully kept and systematically arranged zamindari papers most of the difficulties of the attestation work were quickly surmounted."

Applications for settlement of fair-rents have been filed in much greater numbers in this District and in Saran than in Muzaffarpur. Fair rents have been settled in Champaran for not quite 25 per cent. of the 142,461 tenants for whom existing rents had been recorded down to the end of September 1895, and the percentage of increase of rent for the 35,001 tenants for whom rents have been settled is 14·35. During the year 323 cases against 17,896 tenants have been decided, and an enhancement of Rs. 15,438, or 10·5 per cent., decreed. Of this total, only Rs. 780 were given on the ground of prevailing rate, and the remainder on account of excess areas, no enhancement having been decreed on the ground of rise in prices. A large part of the increase has been decreed in accordance with compromises arranged between the landlords and tenants. The Director observes that there has been a noticeable decrease in the percentage of increase given, as the work has proceeded from areas in the north, where there is much waste land, to areas more south, where there is less waste land. Since the beginning of the operations, 23 appeals against fair-rent decisions have been decided; in 15 of these, the decisions of the Revenue Officers have been upheld and in 8 modified. As regards case-work under sections 105 and 106, out of 29 appeals instituted, the decisions of the Revenue Officers have been upheld in all the four cases hitherto decided.

reason as the north part of Champaran, viz, that it has lately been reclaimed from jungle. Truer analogues are the Ghazipur and Ballia districts, where the rates exceed Rs. 4, and Azamgarh, where 20 years ago Mr. J. R. Reid found the average rate to vary from Rs. 4 to Rs. 4-12, and now the rate is reported by the North-Western Provinces Board of Revenue to be about Rs. 5. Saran is a district of exceptionally rich and well-cultivated land, superior in fertility to any of the three North-Western Provinces districts mentioned. It is premature to formulate any definite conclusion from these tables till the figures are more accurately compiled and cover a large area; but, so far as they indicate, they tend to dispel the impression that the North Bihar raiyat is a down-trodden and rack-rented creature. Every district in the North-Western Provinces would envy North Bihar the possession of such a large proportion of land held by settled raiyats, and most districts would think the average rent-rate fair and moderate.

15. The expenditure on the operations in North Bihar has been as follows:—

	SURVEY.		SETTLEMENT.		TOTAL.		REMARKS.
	During the year.	To end of September 1895.	During the year.	To end of September 1895.	During the year.	To end of September 1895.	
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Muzaffarpur (a) ...	1,70,753	4,62,621	1,31,242	1,38,436	2,60,005	5,40,261	* This includes the expenditure in Saran in 1893-94.
Champaran ...	1,05,083	3,71,493	57,670	1,37,813*	2,32,739	4,29,306	† Does not include portion of the Settlement Officer's pay.
Saran ...	25,525	1,51,801	36,460	36,460†	51,985	1,05,261	
Darbhanga ...	...	16,340	...	...	...	16,340	
Total ...	2,81,361	10,12,844	2,25,372	3,12,709	5,43,819	13,62,139	

(a) Including the cost of survey of Muzaffarpur town and Hajipur Municipality.

On the basis of the expenditure incurred, orders have been passed for the recovery of cost, at the rate of 8 annas an acre, in those areas in the Hajipur and Bettiah subdivisions of the districts of Muzaffarpur and Champaran, respectively, where records have been finally published, $\frac{1}{10}$ ths being borne by Government, $\frac{2}{10}$ ths by landlords, and $\frac{7}{10}$ ths by raiyats. Arrangements are being made to effect recoveries from the beginning of the current season 1895-96. The collections from the tenants will be made by a Sub-Deputy Collector going round from village to village and distributing extracts from the record to all persons concerned on payment of the sums due: all the tenants' payments will be recovered, and as much as possible from the landlords, at this stage; the balance due from the proprietors will be recovered with the land revenue. It is hoped that Rs. 75,000 will be recovered from the landlords and tenants before the end of March 1896.

16. The question will soon arise whether the survey-settlement, when it has completed the four districts of North Bihar, is to be extended or not into the districts of South Bihar or of the Bhagalpur Division. Sir Charles Elliott, being now on the eve of leaving the country, desires to record his opinion that it should be extended. He believes that the operations which have been conducted have to a large extent dispelled the fears and suspicions with which the work was at first regarded. The raiyats are learning to regard the security given by the record of rights as a valuable protection of their tenure. The zamindars have begun to realise that it gives them a useful lever in securing a reasonable enhancement of rent, especially where cultivation has increased. The indigo planters have always perceived the advantage they reap by obtaining accurate knowledge of the rights and position of the parties with whom they have to deal. The vague alarms as to the irruption of a great flood of litigation and as to the imposition of a heavy burden of expenditure have been to a great extent dissipated. His Honour believes that no class is now strongly opposed to a survey-settlement except those who fear loss from the decrease of law suits and the quieting of disputes about title: and he trusts that the blessings now being conveyed to the districts of North Bihar may in the course of time be extended to all Bengal.

17. The survey of the temporarily-settled estates in Orissa was nearly completed during the year ending 30th September 1894. The survey work of the year under report comprised chiefly (a) the completion of the small temporarily-settled area ($5\frac{1}{2}$ square miles) which remained over for survey and record-writing, and (b) the 2" = 1 mile topographical survey (with village boundaries) of 1,043 square miles of the permanently-settled tracts, some of which are situated on the extreme south of the Orissa.

Division on the borders of the Madras Presidency, while others are at the northernmost point touching the district of Midnapore. The total area traversed was 959 square miles, and the 1,013 square miles topographically surveyed were exclusive of 310 square miles of water of the Chilka Lake, and an overlap of 13 square miles of the Madras Presidency which had also been surveyed, in order that the lake might be fully mapped. The following table shows the progress made in each year from the commencement of the operations in 1889-90:—

YEAR.	PURI.				OUTACK.				BALASORE.			
	Traverse sur- vey.	Cadastral sur- vey.	Record-writ- ing.	Topographical survey.	Traverse sur- vey.	Cadastral sur- vey.	Record-writ- ing.	Topographical survey.	Traverse sur- vey.	Cadastral sur- vey.	Record-writ- ing.	Topographical survey.
1	2	3	4	5	6	7	8	9	10	11	12	13
	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.
1889-90	419	368	348	...	112	...	...	...	...	...	...	...
1890-91	471	364	344	...	601	...	279	...	...	...	...	...
1891-92	136	307	307	...	1,228	1,453	1,184	...	...	...	...	...
1892-93	...	...	...	...	...	685	686	...	1,145	1,084	1,049	...
1893-94	...	104	304	...	15	...	...	...	...	548	664	...
1894-95	123	...	...	176	643	...	5	...	183	...	...	193
	1,163	1,183	1,133	176	2,067	2,374	2,374	601	2,923	2,784	2,733	193

* Includes 13 square miles of overlap on Madras.

Government having decided that the resettlement of the Khurda Government estate, in the district of Puri, comprising an area of 886 square miles, of which the current settlement will expire in September 1897, should be based on the existing records revised and brought up to date through the agency of the sarbarahkars, 795 sarbarahkars went through a course of instruction in schools established for the purpose during the year, under the supervision of Mr. R. C. Ewing, the officer in charge of the survey in Orissa, in—

- (1) field surveying (on plane table and by field-book);
- (2) rules for the writing of record of rights;
- (3) extraction of areas and mapping of fields.

The rewriting of the records by the trained sarbarahkars under Mr. Ewing's supervision will be carried out in the season 1895-96, and the re-assessment effected in 1896-97.

The total cost incurred under the head of survey from the beginning of the operations down to the 30th September 1891 in Orissa amounted to Rs. 2,21,102 (excluding all charges for Angul, Banki, Kanka, and Kujang), and the following table shows the amounts expended during the last four survey years:—

		TOTAL SUMS EXPENDED.					
		Traverse survey, including demarcation and stone and bedding.	Cadastral survey, including maps, signs and traces with streams.	Record-writing with statistics and arrears.	Topographical survey.	Other heads.	Total.
1		2	3	4	5	6	7
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Outlook	1891-92	47,890	1,14,645	29,580	...	13,346	3,13,771
	1892-93	3,794	59,127	75,47	...	1,871	1,41,139
	1893-94	799	...	33,504	...	874	34,740
	1894-95	13,923	6,377	814	6,219	...	27,263
	Total	66,425	1,78,310	1,40,829	6,319	17,031	4,15,974
Puri	1891-92	9,735	23,370	2,453	...	13,339	46,437
	1892-93	...	4,628	2,604	...	779	8,041
	1893-94	...	2,038	3,391	...	...	5,429
	1894-95	3,963	306	610	1,400	2,302	6,581
	Total	13,733	26,334	6,458	1,404	17,807	57,332
Balasore	1891-92	37,760	...	...	...	...	37,760
	1892-93	40,871	99,393	25,723	...	47	1,66,004
	1893-94	642	60,037	40,008	...	...	1,00,727
	1894-95	2,323	6,391	3,230	1,707	...	10,751
	Total	72,006	1,65,810	69,789	1,707	47	2,09,699
* mapping for the Orissa Division for 1894-95.		...	...	...	...	...	2,640
GRAND TOTAL		1,52,161	3,60,472	2,10,316	9,526	34,838	6,14,193

Excluding Rs. 6,293, which represented cost of the revision of survey of the Puri Temple lands, the total expenditure in Orissa under the head of survey amounts approximately to—

	Rs.
Incurred up to 30th September 1891	2,21,102
„ from 1st October 1891 to 30th September 1895	8,14,192
Total	10,35,294

The total area surveyed in Orissa, exclusive of the Puri Temple lands (105 square miles), being 5,036 square miles, the total cost per square mile is Rs. 205-6.

18. Mr. W. Maude was in charge of the settlement work in the Cuttack and Puri Districts with a maximum staff of 12 Assistants during the field season under him. In Cuttack 10 officers working for varying periods, which amounted in the aggregate to 61 months, attested records and recorded existing rents and status in 1,356 villages with an area of 681.38 square miles, containing 276,138 tenants and 1,184,545 plots. The average outturn for each officer *per mensem* was therefore 19,418 plots. This is a great improvement on the rate of work in the preceding season in which each officer only attested 5,921 plots per mensem. In Puri one officer did similar work in 23 villages with an area of 13.05 square miles, and containing 3,458 tenants and 11,986 plots. The following table shows the entire progress of attestation work in Cuttack and Puri from the beginning of the work:—

	WORK DONE.				WORK REMAINING ON 1ST OCTOBER 1895.		
	Number of villages.	Number of square miles.	Number of plots.	Number of tenants.	Number of villages.	Number of square miles.	Number of plots.
1	2	3	4	5	6	7	8
Cuttack							
Up to end of 1891-92	2,520	1,091	1,974,224	(Not stated)			
During 1892-93	1,336	601	1,154,445	174,498			
Do. 1893-94				101,448			
Do. 1894-95				276,138			
Total for Cuttack	3,856	1,772	3,128,709		1,042	600	551,087
Puri							
Up to end of 1891-92	1,024	506	1,052,298	(Not stated)			
During 1892-93	61	50	117,316	30,448			
Do. 1893-94	1	2	2,184	530			
Do. 1894-95	23	13	11,986	3,458			
Total for Puri	1,069	561	1,184,533		114	67	33,516
Total of the two districts	4,925	2,333	4,313,242		1,156	667	584,603

* These figures relate to villages belonging to the Puri Temple.

During the recess months from May to September, five officers were employed in completing the records and tabulating the statistics. Mr. James Taylor was employed on settlement of fair rents during the year. Including the work of the previous year, he has settled rents in 142 villages for 13,950 tenants, whose existing rents he has raised from Rs. 38,219 to Rs. 44,835.

19. Balasore was constituted a separate settlement charge with effect from 1st November 1894, and Mr. S. L. Maddox has been in charge of the settlement of the District since that date except for the period from the 17th July to the 16th October 1895, when he was on privilege leave. Mr. Maddox had a maximum staff during the field season of ten Assistants, who attested records for 1,962 villages containing an area of 1,022 square miles, 296,818 tenants, and 1,204,215 plots. The average outturn for each officer *per mensem* was about 21,000 plots. The following table shows the progress of attestation work in this District from the beginning of the work:—

	WORK DONE.				WORK REMAINING ON 1ST OCTOBER 1895.		
	Number of villages.	Number of square miles.	Number of plots.	Number of tenants.	Number of villages.	Number of square miles.	Number of plots.
1	2	3	4	5	6	7	8
During 1895-96	512	126	204,645	41,031			
1896-97	877	364	475,421	106,436			
1897-98	1,900	1,022	1,204,215	296,818			
Total	3,289	1,512	1,884,281	443,285	609	390	522,465

Two Assistant Settlement Officers were retained for tabulation of statistics during the recess, but they have not furnished any consolidated returns of the statistics.

Mr. Maddox and two of his Assistants made experimental settlement of rents, on the basis of soil maps, in 20 villages, in 11 of which the results show the proposed assets to be 51 per cent. in excess of rents now paid and 84 per cent. in excess of the assets of the last settlement.

20. In both these Districts the Settlement Officers have been making experimental efforts and feeling about in a not very successful way in order to establish some principles for the settlements of fair rents and the assessment of revenue, but they have hardly as yet realised that the first essential point is to obtain a firm grasp of existing facts as to rents and rent-rates. Although two Deputy Collectors were engaged on the work in Balasore, the prescribed table (such as is given in paragraph 14 above) has not been submitted for Balasore; this is perhaps due to the Settlement Officer's absence on leave. In Cuttack the figures for nearly 300,000 tenancies have been tabulated, but it has been done with excessive elaboration and such differentiation of classes and sub-classes and sub-sub-classes which need not be differentiated, that it is difficult to draw any conclusion from it. A Settlement Officer must learn that he cannot afford to concentrate his whole attention on the one branch of his work which he has in hand: he must look forward and foresee the end and prepare, as he goes along, the data which will be required to accomplish the whole of the business he has in hand.

21. The cost incurred on settlement in all the three Districts during the year ending 30th September, 1895, amounted to Rs. 1,93,392, of which Rs. 1,10,185 were for Cuttack and Puri, and Rs. 83,207 for Balasore. The amount first mentioned, distributed over 1,716 square miles, the total area attested in the three districts, gives a cost rate of about Rs. 113 per square mile, or about 2 annas 10 pies per acre against $6\frac{1}{2}$ annas, the rate per acre arrived at in the previous year. The total cost of the settlement operations in Orissa down to the end of the year is reported to be Rs. 8,01,712, and the expenditure under the head of survey being Rs. 10,35,294, the total amount expended on the survey and settlement operations in Orissa down to 30th September 1895 amounts to Rs. 18,37,006.

22. The only survey work remaining to be done in Chittagong was the survey of a small area of thatching-grass lands and the demarcation of the Hill Tract boundary; of the latter work 49 miles still remain to be surveyed. The number of boundary disputes disposed of during the year was 233. The settlement operations were conducted by Mr. C. G. H. Allen, and, after he went on furlough, by Mr. Stevenson-Moore, assisted by a staff consisting, during the greater part of the year, of five Assistant Settlement Officers. The progress in "mahal milan," or adjustment of lands of estates and villages, was completed in 240 villages, leaving 276 villages still in hand. There was a marked improvement in the progress of settlement of fair rents; for 80,997 tenancies in 356 villages rents were settled in the year, against 13,463 in the previous year. The total number of villages in the District is now stated to be 1,036 and of noabad tenants 212,655, but these figures are liable to correction; there are several discrepancies which are noticed in the Chittagong report, and it is feared that accuracy has not yet been attained in this District in the compilation of settlement statistics. The number of tenants whose rents remained to be settled at the end of the year was 107,252 distributed in 591 villages, and this work can hardly be quite finished in 1895-96, as hoped for in the Resolution on the report for the year 1893-94. The results of the settlement of fair rents have been, in the words of the Director of Land Records, that "rents in the aggregate payable by tenants of all degrees have been raised from Rs. 4,71,326 to Rs. 6,18,418; and revenue payable directly to Government has been raised from Rs. 2,45,617 to Rs. 3,56,415, or 45 per cent. The increase of revenue has varied in the different circles, from 12 per cent. in Kutubdia, where rents were settled only 10 years ago (and where presumably rates have not been increased and only excess lands have been assessed), to 94 per cent. in Satkania and 196 per cent. in Sangu. In Satkania rents were previously much too low, the Settlement Officer says. He has a discretion to reduce enhancements which may appear to him to have been excessive or too suddenly made. In Sangu waste lands have been broken up." Only two appeals were presented to the Special Judge against fair-rent decisions. One only was decided, and against the appellant, during the year.

possession of 5,579, or 42·4 per cent.; rent-free-holders and tenure-holders occupy 255 and 115 respectively. The average rate of rent per acre paid by occupancy raiyats is 14 annas 3 pies. The cost of settlement operations amounted to Rs. 15,840-14-10. The Settlement Officer proposes to raise the existing revenue of the estate from Rs. 40,842 to Rs. 79,899, or by 95 per cent., the extension of cultivation since the last settlement having amounted to 131 per cent. The report containing his proposals has not yet reached Government.

25. The operations in the Darjeeling District comprise 819 jotes, covering an area of about 196 square miles, and 33 grants, covering an area of about 35 square miles, of which by far the greater portion is under tea. With regard to the grants, it is only necessary to make a boundary survey and a block survey of the interior, such as is commonly made in the Western Duars, to ascertain the area brought under cultivation. The survey and record-writing of 210 square miles were finished, leaving a small portion of the "grant" land to be completed in the current year. An Assistant Settlement Officer supervised the record-writing. Attestation and assessment will be carried out this year.

26. The settlement of the Kolhan Government estate in Singhbhum, which was made for 30 years, will expire on 31st March 1897, and measures were begun in 1894 for its resettlement. The work is placed under Mr. Craven, Deputy Magistrate and Deputy Collector, who has had much experience among the Sonthals, a race not dissimilar to the Kols, and not under the Director of Land Records. But a traverse survey has been run through the District (the forest area excepted) and skeleton maps prepared by the professional department, on which the field survey is based. The estate is said to cover an area of about 1,423 square miles, exclusive of forest reserves, and to contain 796 villages. The traverse survey of 1,175 square miles was completed during the year at a cost of Rs. 35,954.

The settlement not being under the Director of Land Records and Agriculture, no mention is made of it in his Report. It will be convenient if, as in the case of the Sonthal Parganas settlement, he embody in his future reports a short paragraph, giving the history of the work for the year. Measurement has been completed and records prepared in 182 villages, covering an area of 79,111 acres of cultivated and 31,356 acres of uncultivated land. The expenditure amounted to Rs. 28,274 up to the end of September 1895.

Mr. Craven has drawn up a report containing his proposals for assessment, and orders have recently been issued by Government.

27. The survey of the estates of His Highness the Maharaja of Hill Tippera in Tippera and Nonkhali Districts, and the initial record-writing, were completed before the commencement of November 1894. Attestation was taken in hand in the middle of November 1894, and the work of the year consisted of attesting 327 villages with 29,119 tenants and 132,046 plots, covering 89 square miles.

Mr. J. G. Cumming, c.s., took charge of this settlement in October 1894, and had two Assistant Settlement Officers under him during the field season.

The average outturn of work per officer was 9,196 plots a month, which falls very far short of the estimated outturn of 20,000. Briefly, the causes which have brought about this result and have rendered the task of making a record of rights more difficult in Tippera than in any other part of these provinces have been the intricate system of taluks, the large number of disputes, and the obstructive attitude of the tenants. Applications for the settlement of fair rents were filed in 90 villages during the year under report and in 12 during the previous year. Sixteen cases in five villages affecting 177 tenants were disposed of during the year. The publication of draft records was made in five villages during the year; no final publication has taken place.

Statistics of rent and status have been tabulated for 29,944 tenancies (exclusive of under-raiyats' holdings), with the result that 25,555 tenancies, or 85·3 per cent., are found to have been held by settled and occupancy raiyats paying an average rent of Rs. 3-8-2 an acre, calculated on the cultivated and uncultivated area. The cost incurred on settlement during the year was Rs. 33,268, and from the beginning Rs. 68,073.

28. The traverse and cadastral survey of the Tikari estate had been well advanced in the previous year and, during 1894-95 the traverse work covered an area of 46.03 square miles and 65 scattered villages, and the cadastral work, including the revision of certain villages previously surveyed by the Irrigation Department, 18.09 square miles and 45 villages; some of the villages were situated in Gaya and some in Patna District. The record-writing was carried out for 69 square miles and 104 villages. The work of the professional party in the Raj estate, except the Belkhara mahal, was completed during the year.

Over three-fifths of the attestation work was carried out during the year under review. Records were attested for an area of 317.73 square miles, containing 441 villages, 27,612 tenants, and 382,837 plots. The work was done at the rate of 18,500 plots a month for each officer employed. Publication of the draft records went on *pari passu* with attestation, as few applications for settlement of fair rents were filed, and the draft records of 440 villages were published out of the 441, of which the records were attested.

Statistics have been tabulated for 27,612 tenancies; 22,655, or nearly 81 per cent., are held by settled or occupancy raiyats; 2,097, or 7 per cent., by rent-free holders; 1,137, or 4 per cent., by non-occupancy raiyats. Nearly three-fourths of the rent paying area is held on produce rents, and the rate of cash rents for settled and occupancy raiyats is Rs. 4-7-3 an acre.

The total expenditure of the Survey Department during the year has amounted to Rs. 28,761, and the work of the Settlement Officer has cost Rs. 33,104 (including the cost of supervision of record writing in the Government estates). It is estimated that the whole cost of the operations, settlement and survey, will amount roughly to 7 annas 6 pie an acre.

29. The following table shows the progress of the operations and the cost incurred in the smaller surveys and settlements dealt with by the Directors of Surveys and Land Records:—

District.	Number of villages.	Area in square miles.	SURVEY.		SETTLEMENT.					Total cost of survey and settlement to end of the year.
			Traverse— During 1894-95.	Cadastral— During 1894-95.	Attestation : number of villages—		Settlement of fair rents to end of the year.			
					During 1894-95.	To end 1894-95.	Number tenants.	Former rental.	New rental.	
1	2	3	4	5	6	7	8	9	10	11
Government estates.										
(1) Patnaur estates in Midnapore	34	54.8	.....	.....	40	88	.....	.....	.....	22,305
(2) Jalpur estates in Bogra	157	55.2	.....	.....	11	11	.....	14,104	24,224	32,328
(3) Backergunge estates	52	51.04	.....	.....	2	4	.....	.....	.....	21,100
(4) Gaya estates	109	20	.....	.....	.....	.....	.....	.....	.....	1,341
(5) Shahabad estates	20	18.75	.....	.....	12	20	.....	.....	.....	.....
Total	314	229.77	.....	.....	74	123	.....	14,104	24,224	74,738
Private estates.										
(1) Chaurai estates in 24 Parganas	53	23	.....	.....	.....	.....	.....	.....	.....	6,618
(2) Ganga Mandal in Tippera	3	2.16	.....	.....	2	2	.....	.....	.....	623
(3) Jalpara in Tippera	11	2.68	.....	.....	21	21	.....	.....	.....	1,404
(4) Tanchangia in Khulna	2	2.0	.....	.....	.....	.....	.....	.....	.....	1,285
(5) Chakrabarti in Backergunge	7	2.45	.....	.....	.....	.....	.....	.....	.....	.....
Total	76	30.27	.....	.....	14	16	.....	.....	.....	17,430
Wardah estates.										
(1) Burdwan Raj Bhae mahals in Burdwan, Hooghly, and Bankura.	170	120.2	.....	.....	24	120	6,154	27,408	20,002	(b).....
(2) Dakshin Shabbetpar in Backergunge.	47	140.00	.....	.....	.....	47	7,320	.....	.....	22,100
(3) Srimangor to Backergunge	9	2.12	.....	.....	7	9	1,401	20,030	20,030	6,704
Total	226	262.31	.....	.....	41	176	14,875	47,438	20,030	1,10,804
GRAND TOTAL	720	650.25	.....	.....	125	325	14,409	71,662	44,254	1,95,972

(a) Only Rs. 745 have been shown as expended by the Survey Department. The rest of the survey expenditure has not been reported.

30. The final publication of the khatians and record of rights of the villages in parganas Teur, Sultanabad, and Ambar, in the Sonthal Parganas, which had been measured and settled during the year ending 30th September 1894, was completed during the month of October 1894. No fresh settlements of private estates in the Sonthal Parganas were taken up during the year.

31. Besides the question mentioned in paragraph 11 above as to the power of a Settlement Officer to deal with disputes between landlords *inter se* and tenants *inter se*, the following practical difficulties in the working of the Tenancy Act are mentioned by Mr. Macpherson in his Report and by the Board in their covering letter:—

- (1) How far the Settlement Officer is bound to act on a compromise agreed to by both parties, or whether he should go behind the written compromise;
- (2) What power a Settlement Officer or a Special Judge has to review and modify his own decisions, either at the petition of an aggrieved party or of his own motion;
- (3) What is the meaning of the term "prevailing rate?"

On these points the Lieutenant-Governor agrees with what the Board has said or proposes to do. In the first case, the decision of the High Court, in the case of the Bettiah Raj *versus* Palti Koeri and others, lays down a ruling which disposes of the doubts raised, and which should be followed. In the second case, three Special Judges have held that the power of revision exists, and it should be exercised until these decisions are upset by higher authority—an eventuality which need not be anticipated. As to the third point, the Board's further reference to the law officers may be awaited, but His Honour has elsewhere intimated his opinion that the help of the Legislature will have to be called in to cut this knot. The Lieutenant-Governor also agrees with the remarks made by the Board (paragraph 8) on Mr. Lyon's aspiration after freedom from the trammels of Civil Code Procedure in dealing with disputes under section 106. Mr. Lyon is mistaken in thinking that no such suits are tried in Chittagong. On the contrary, the table on page xxxi of the Report shows that 1,146 suits under this section were disposed of there in the past year, and the Settlement Officer has informed the Lieutenant-Governor that Chapter VI of the new rules under the Tenancy Act has greatly simplified the procedure and facilitated progress in disposing of these cases.

32. In Chapter V of his Report the Director of Land Records has dealt with the subject of the maintenance of settlement records. Act III (B.C.) of 1895 has now been passed; it provides for the maintenance of records of rights in land in surveyed areas, to which it may be extended, by requiring all classes of privileged tenants to register all mutations of tenant-rights, whether due to succession or transfer. The registration of mutations of the rights of non-occupancy raiyats and of under-raiyats is left optional. Since the conclusion of the year, rules for the introduction and working of the Act have been published for criticism, and have recently been issued. Also measures have been taken for the establishment of offices at Hajipur in Muzaffarpur and at Bettiah in Champaran for the registration of mutations. Apart from the Act, attempts have been made in large estates belonging to Government or under the Court of Wards to improve the system of record of mutations of tenancies. Half-yearly returns of mutations of tenant-right and settlements of abandoned holdings or waste lands on large estates belonging to Government or under the Court of Wards have been required, and will result, it is hoped, in more efficient maintenance of the rent-rolls. In Khurda maps and copies of khasras have been corrected by the sarbarakars in about 867 of the 1,378 villages. In the Angul Government estates 30 out of the 417 sarbarakars have submitted returns. For the Western Duars rules have been passed, prescribing the maintenance of mutation registers, which give in abstract the principal facts for each jotadar's or chukanidar's tenancy as recorded in the settlement. The working of these rules should be carefully watched.

33. The Lieutenant-Governor has on previous occasions cordially acknowledged the excellent work done by Mr. W. C. Macpherson and Colonel J. E. Sandeman in the

Conclusion.

management of their Departments, and has commended their enthusiasm and energy in the performance of their duties. He has again to thank them for their eminently successful labours during the past year, and especially to record his obligations to Mr. Macpherson for the success with which he has grappled with the difficulties which necessarily accompany the working of a new law for the first time on so large a scale. Both the Directors have furnished lists of their subordinates who have rendered good service during the year, and Sir Charles Elliott desires that an expression of his high appreciation may be communicated to Captain R. T. Crichton of the Survey Department and to the following officers of the Settlement Department:—

Settlement Officers.

Mr. C. G. H. Allen.
 " E. G. Colvin.
 " J. G. Cumming.
 " P. C. Lyon.
 " S. L. Maddox.
 " C. J. Stevenson-Moore.
 Babu Peari Mohun Basu.

Assistant Settlement Officers.

Mr. R. Nathan, I.C.S.
 " M. F. Gauntlett, I.C.S.
 " W. Thomson, I.C.S.
 " J. Taylor.
 Munshi Nundjoe.
 Maulavi Ghulam Ghous.
 Babu Annada Charan Gupta.

The names of the other Assistant Settlement Officers specially mentioned by the Director in paragraphs 120-121 of his Report will be noted in the Appointment Department.

By order of the Lieutenant-Governor of Bengal,

C. E. BUCKLAND,

Secretary to the Govt. of Bengal.

**EXTENSION OF THE SYSTEM OF PAYMENT OF RENT BY MEANS
OF POSTAL MONEY-ORDER TO THE DISTRICT OF PURI IN
ORISSA, WITH EFFECT FROM THE 1ST JANUARY 1893.**

REVENUE DEPARTMENT—LAND REVENUE.

Calcutta, the 12th December 1895.

RESOLUTION—No. 5403.

READ—

Government Resolution No. 319L.R., dated the 19th March 1891.

Government Notification, dated the 10th September 1891.

Memorandum from the Government of India, No. ¹⁷⁹³₃₋₂, dated the 17th June 1895, and enclosure.

Memorandum from the Board of Revenue, No. 1010A., dated the 10th October 1895, and enclosures.

Letter from the Postmaster-General, Bengal, No. ²⁹⁰³_{E.O. No. 3}, dated the 5th November 1895.

In June last the Government of India forwarded to this Government for disposal a petition, dated the 2nd idem, from certain inhabitants of the town of Puri in Orissa, praying that the system of payment of rent by means of postal money-order might be extended to that district. The Board of Revenue, who were consulted by Government, supported the recommendation of the local officers in favour of the petitioners' proposal, and the Postmaster-General, Bengal, also has reported that he has no objection to the introduction of the system into the Puri district. In these circumstances, and having regard to the success of the system of paying rent by money-order, which was at first introduced tentatively in the Burdwan, Rajshahi, Presidency and Dacca Divisions, and was afterwards, by Government Resolution No. 319L.R., dated the 19th March 1891, extended to all the districts of Bengal in which the Bengal Tenancy Act was in force, the Lieutenant Governor is pleased to accede to the prayer of the petitioners, and to authorise, under section 64(2) of the Bengal Tenancy Act, which, with certain other portions of the Act, has been extended to Orissa by Government Notification, dated 10th September 1891, that from the 1st January 1896 the payment of rent by means of postal money-order shall be allowed in the district of Puri.

ORDER—Ordered that this Resolution be published in the *Calcutta Gazette*.

By order of the Lieutenant-Governor of Bengal,

C. E. BUCKLAND,

Secretary to the Government of Bengal.

WEATHER AND CROP REPORT.

For the week ending the 16th December, 1895.

Burdwan.—No rain. Weather fair. Prospect of *aman* crop not good; its reaping and thrashing commenced. Sugarcane good. Water-supply sufficient. Fodder good. Condition of cattle very good. Common rice sells at an average price of 16 seers a rupee.

Midnapore.—Rainfall nil. Weather cold. Paddy is being reaped all over the district; the produce in Ghatal has improved and said to be an 8-anna crop. Indigo, sugarcane and linseed doing well. Some rain will improve prospects. Fodder and water sufficient. Common rice selling at—

	Srs.	
Midnapore	18	} per rupee.
Contai	22	
Tanahuti	15	
Ghatal	16	

24-Parganas.—Rainfall nil. Weather bright and cool. Harvesting of *aman* continues; estimated outturn 8 annas in the north and 12 annas in the south of the district. *Rabi* crops progressing fairly. Fodder sufficient, but water insufficient in Barasat and Basirhat. No cattle-disease. Rice sells at—

	Srs.	c.	
Sadar	12 to 14	0	} per rupee.
Barasat	15	0	
Basirhat	14	3	
Diamond Harbour	16	0	

Marashidabad.—No rain. Weather seasonable. State of *kharif* good. Harvesting of *aman* still continues; estimated outturn 8 annas. Prospect of *rabi* crops seems good, except wheat. Cutting of sugarcane still going on. Indigo and mulberry doing well. Fodder sufficient. Common rice sells at 14 seers a rupee.

Khulna.—Rainfall at Sadar 0.8, Bagerhat 4.9, Satkhira nil. Weather seasonable. Harvesting of *aman* going on. No cattle-disease. Fodder and water sufficient. Common rice sells at—

	Srs.	c.	
Sadar	16 to 21	0	} per rupee.
Bagerhat	17	8	
Satkhira	14	3	

Dinajpur.—Rainfall nil. Weather cold. Condition of *rabi* crops not good. Rain is wanted. Common rice selling from 13 to 16 seers per rupee. No report of any cattle-disease. Fodder and water sufficient.

Rangpur.—Rainfall nil. Harvesting of *aman* going on. Prospects generally good. Common rice selling at 14 seers per rupee. Fodder sufficient.

Pabna.—Rainfall nil. Weather cool and pleasant. Harvesting of *aman* continues. Sowing of *rabi* crops nearly over. Fodder sufficient. Common rice sells at Sadar 18 seers and Sirajganj 13 seers per rupee.

Dacca.—Rainfall 3.5. Weather seasonable. Harvesting of *aman* paddy going on; prospects fair. *Rabi* crops thriving. No cattle-disease. Fodder available. Common rice sells at 16 seers a rupee.

Chittagong.—Rainfall 4.26. Weather variable. *Aman* ripening and is being harvested in places. Prospects not good. Water and fodder sufficient. Common rice sells at 15 seers per rupee.

Patna.—No rain. Harvesting of paddy in progress. *Rabi* and poppy doing well. The resowings of poppy coming on well. Condition of cattle good. Fodder and water sufficient. Common rice sells from 18 to 23 seers per rupee.

Gaya.—No rain. Harvesting of paddy in progress. *Rabi* crops suffering for want of moisture. Poppy doing well. Price of common rice at Sadar 17 seers against an average of 16½ seers per rupee. Water and fodder sufficient.

Champana.—No rain. Harvesting of *ajhaz* continues. *Rabi* and poppy are being weeded. Prospects generally good. Common rice selling from 15 to 22 seers per rupee. Fodder and water for cattle sufficient.

Darbhanga.—No rain. Weather seasonable. Rice harvest continues. Rain much wanted for *rabi* crops. The later poppy sowings coming up well. Fodder for cattle plentiful. Prices stationary.

Bhagalpur.—No rain. Weather cold. Harvesting of winter paddy not finished; estimated outturn above 12 annas. Rain wanted for the *rabi* crops. Water sufficient. Fodder reported as getting scarce in Banka. Common rice sells at an average price of 19 seers per rupee.

Purnea.—No rain. Cutting of *ajhaz* rice and sowing of *rabi* crops continue. Prospects good. Fodder and water sufficient. No cattle-disease. Price of common rice 18 to 25 seers per rupee.

Cuttack.—Rainfall nil. Weather seasonable. Harvesting of *arad* rice in progress. *Dalua* paddy seeds sown in places. Condition of cattle good. Fodder sufficient. Common rice sells at—

				Srs. a.	
Cuttack	23 10	} per rupee.
Jajpur	...	...	...	29 10
Kendrapara	...	...	...	31 8
Banki	...	...	...	29 8

Hazaribagh.—No rain. Weather seasonable. Harvesting of paddy in progress; average outturn 8 to 12 annas. Rain wanted for the *rabi* crops. Poppy progressing satisfactorily. Fodder and water sufficient. Common rice selling at 13 to 16 seers rupee.

General Summary.—The principal feature of the weather during the week was a storm in the Bay, which struck the coast near Chittagong on the 12th instant and caused heavy rain in that station and rain in less quantities over other parts of Eastern Bengal. The harvesting of winter rice is in full progress, and the outturn, as previously reported, will be below the average in most districts. The *rabi* crops are doing well, but in some districts there is lack of moisture. Prospects of poppy are generally satisfactory. Indigo and sugarcane are thriving. No cattle-disease is reported. The price of common rice is still steady.

By order of the Lieutenant-Governor of Bengal,

REVENUE DEPARTMENT,
The 17th December, 1895.

C. E. BUCKLAND,
Secretary to the Government of Bengal.

SUMMARY OF THE METEOROLOGICAL AND RAINFALL OBSERVATIONS TAKEN IN BENGAL, AND OF THE METEOROLOGICAL OBSERVATIONS TAKEN IN ASSAM, FOR THE MONTH OF NOVEMBER 1895.

The principal features which have characterised the meteorology of November have been—

1. Pressure was on the average for the month in small to moderate excess, the variation equalling about 0·03" to 0·04," and being usually largest over the eastern half of the province and smallest at the western stations.

2. The average of the daily maximum temperatures was in very decided excess, the western districts registering about 8° to 4° above the normal, and the eastern districts only an excess of about a degree. In the night, or minimum, temperatures also excess amounts were usually registered, the greater part of the province showing an excess of about 1° to 2°, while at the extreme eastern stations and in Assam slightly defective temperatures were registered.

3. Humidity and cloud proportion both varied moderately from the normal, but while, however, humidity was in excess at all stations except one, the excess averaging about 5 per cent., on the other hand all the stations, except about a fifth, showed a cloud proportion smaller than usual, the cloud proportion only equalling about half the normal amount for November; hence showing that the weather generally in November was less disturbed than usual.

4. The greater part of the province received practically no rain during November, and the only division in which a moderate fall was received was Orissa, but even here the fall was only equal to about half the normal. East Bengal also received small amounts of rain, but only equal to about a seventh of the normal amount, while elsewhere there was practically no rain at all. Taking the province of Bengal as a whole, the actual falls in November were less than 18 per cent. of the usual amounts.

5. At the close of October, weather had been disturbed in Bengal, but conditions quickly became more settled, and at the beginning of November weather was fine except over Orissa, where showers continued to fall, but these, however, also ceased from about the 1st. Owing to a slight disturbance in the Bay, again weather in Lower Bengal became cloudy on about the 8th or 9th, and a few local showers fell, but from this time up to about the 20th weather continued practically fine, though the conditions as to temperature were very abnormal, as rather large excess amounts continued to be registered, and at the same time the northerly wind current was light and irregular. A comparatively cool wave of air, however, swept over the province from about the 21st, and from this time up till the close of the month ordinary cold-weather conditions set in, and a steady north-east monsoon wind current prevailed over the province. Thus, on the whole, the weather conditions were fine and almost settled throughout nearly the whole of November.

The following is a very brief summary of the meteorological changes in Bengal during November:—

In the last week of October a cyclonic storm of considerable intensity passed across the south-west of the Bay, and died away soon after it crossed the coast between Nellore and Masulipatam. This caused a current of moist air to flow northwards up the west of the Bay, and into Orissa, Lower Bengal, and Oota Nagpur. This wave of moisture-laden winds was again slowly driven back, and by the 1st of November it had withdrawn from all districts except Orissa. Hence, from the commencement of the month, weather was fine and almost rainless, except in Orissa, which, on the 1st, reported practically general rain. The conditions of humidity and temperature generally obtaining over the province were a little abnormal, and temperature in particular during the first week of November rose very considerably, and from being in defect at the end of October it became in excess by amounts ranging up to about 5° in places. A slight disturbance formed in the Bay in the first week of November, but it did not reach the land, though its influence was seen in producing cloudy weather and a few local showers in Lower Bengal, which were reported on the 8th and 9th. From this time up to about the 20th, the changes were unimportant, though rather abnormal conditions of excessive temperature and to a smaller degree of humidity continued to be reported. Wind directions were also not very steady, and southerly winds were reported in South Bengal on some occasions in the middle of November, and hence the true cold season or north-east monsoon conditions can scarcely be said to have established themselves properly up till about the 20th of November. Conditions over North-Western India, however, indicated a change in the weather from the middle of the month, for a barometric depression which had appeared in the Southern Punjab on the 16th commenced to move south-eastwards, while a cold wave of air appeared in Baluchistan, which began to spread eastwards. On the 18th the centre of the depression was situated near Meerut, and the feeble storm was breaking up against the Himalayas, giving snow and hail in the hills and rain in the adjacent plains, while the cold wave had moved over the Punjab on the 18th, and on the 19th it was advancing over the North-Western Provinces. During this time the changes of temperature and pressure in Bengal were small and unimportant, but from the 20th the cold wave commenced to affect Bengal, and from the 19th to the 20th there was a fall in the mean temperature of about 1°.

and on the 21st of about 1° to 5° , while the fall was of a rather smaller amount on the 22nd. On this last date also pressure had decreased rather briskly, and the distribution became fairly normal. On the 22nd, however, the maximum temperatures reported were usually still from 1° to 3° in excess, though there was little difference in the night, or minimum, temperatures. On the 23rd temperature again fell at the majority of stations, and the mean temperature became not very far from the normal, while the pressure changes were small and the distribution about normal. The northerly winds characteristic of the cold season also became more strongly developed, and steady cool northerly winds of light to moderate force established themselves over the whole province from about the 23rd instant.

During the last week in the month the meteorological changes which occurred over the greater part of Bengal were unimportant, and in all districts except in the hills of North Bengal and at the stations at their foot fine settled weather of ordinary north-east monsoon character obtained, while a fairly steady northerly wind current continued to blow over the whole province. Slightly disturbed conditions, however, appeared in the hills about the 28th, and a few rain showers were reported in and near the hills for the last day or two of the month, while the disturbance also caused an increase in the cloud proportion at some of the neighbouring stations in the plains.

It will be seen, however, that weather in Bengal was in November decidedly more settled than usual, and hence the amounts of rain that have fallen have been exceptionally small.

Pressure—Was generally rather high for the first week or ten days of the month, but during the week ending the 16th instant an almost normal pressure was registered. In the following week, again, a small but distinct excess was registered, and for the last week the excess equalled from 0.02° to 0.03° . Hence for practically the whole month slight excess pressures were recorded. The mean pressure for the month has been in excess by amounts which have usually averaged about 0.03° , but the variations were largest at the eastern stations and smallest in the west of the province: the largest excess was indeed registered at Silchar, where it equals 0.06° .

Temperature—For the first twenty days was very considerably above the normal, but during the last ten days the variations from the normal became small. Hence the mean temperature for the month for the whole of Bengal was 2° above the normal, and this excess was fairly equally distributed in most divisions.

The variation of the average weekly temperature from the normal in various districts is seen in the table below, where the actual variations of maximum, minimum, and mean temperatures at nine typical stations in different parts of the province are recorded:—

STATIONS.	WEEK ENDING 6th NOVEMBER 1895.			WEEK ENDING 16th NOVEMBER 1895.			WEEK ENDING 23rd NOVEMBER 1895.			WEEK ENDING 30th NOVEMBER 1895.		
	Variation of actual mean maximum temperature of week from normal mean.	Variation of actual mean minimum temperature of week from normal mean.	Variation of actual mean daily temperature of week from normal mean.	Variation of actual mean maximum temperature of week from normal mean.	Variation of actual mean minimum temperature of week from normal mean.	Variation of actual mean daily temperature of week from normal mean.	Variation of actual mean maximum temperature of week from normal mean.	Variation of actual mean minimum temperature of week from normal mean.	Variation of actual mean daily temperature of week from normal mean.	Variation of actual mean maximum temperature of week from normal mean.	Variation of actual mean minimum temperature of week from normal mean.	Variation of actual mean daily temperature of week from normal mean.
Cuttack	+0.0	+0.3	+0.6	+3.6	+3.0	+3.2	+2.4	+4.3	+2.2	+0.3	-0.2	-0.4
Calcutta	+1.1	+0.9	+1.0	+4.1	+4.1	+4.1	+3.2	+2.8	+2.7	+1.6	-0.1	+0.4
Chittagong	+1.0	-1.0	-0.4	+1.0	+0.2	+0.6	+1.6	+2.0	+0.1	-0.3	0	-0.4
Burdwan	+0.0	+0.3	+0.6	+4.1	+4.0	+4.0	+4.6	+2.3	+3.6	+0.0	-0.1	+0.4
Patna	+1.4	+2.9	+2.1	+3.0	+0.9	+0.1	+2.3	+3.5	+3.6	+1.4	+2.5	+1.7
Gaya	+2.1	+2.5	+2.6	+5.8	+4.0	+5.2	+6.7	+3.2	+4.6	+3.5	+2.5	+2.2
Purnea	+1.3	+2.1	+1.7	+2.6	+0.1	+4.3	+3.5	+1.0	+2.7	+2.3	+1.2	+1.8
Datariabagh	+1.2	+1.9	+1.5	+5.3	+4.6	+4.9	+6.8	+4.4	+4.0	+2.7	+1.7	+2.2
Darjeeling	-0.3	+2.0	+0.9	+0.6	+4.6	+2.5	+0.8	+1.3	+1.2	-2.0	-0.9	-1.9

Rainfall—Orissa has received an average fall of 0.73 inch, which is, however, only about half the usual amount. In East Bengal an average fall of only 0.15 inch has been received, and in all other divisions the falls have been quite unimportant.

The following table gives in a condensed form the rainfall information for each of the six large meteorological divisions of Bengal for the present year up to the close of November. The numbers there given, as in the case of the former months of the year, are the actual average rainfall in each division, expressed as a percentage of the normal fall for the period, and the last column also gives the total rainfall up to the close of November, expressed in

the same way. The rainfall for the year, it will be seen, has been rather largely in defect of the normal in all divisions except Orissa:—

METEOROLOGICAL DIVISIONS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	Actual rainfall of first eleven months of 1895 expressed as a percentage of the normal fall for the period.
South-West Bengal ...	44	9	29	111	86	52	67	67	67	88	8	72
North Bengal ...	27	6	49	127	91	49	105	67	59	30	20	65
East Bengal ...	11	1	58	145	133	47	81	90	75	107	14	80
Bihar ...	71	88	34	129	70	72	120	102	77	16	7	39
Orissa ...	49	101	29	194	46	212	79	116	90	89	53	103
Chota Nagpur ...	66	62	71	418	70	109	68	67	78	88	0	66

The following table gives the summary of the temperature and rainfall data of each of the seven meteorological divisions of the province for the month of November 1895:—

METEOROLOGICAL DIVISIONS.	TEMPERATURE.						RAINFALL.							
	Highest observed during month.	Lowest observed during month.	Averages for month.			Average mean of month above or below normal mean of month.	Of month.			Rainy days.			Since 1st October 1895.	
			Of highest of each day.	Of lowest of each day.	Of mean for each day.		Average.	Normal average.	Variation.	Average number in month.	Normal average number in month.	Variation.	Average.	Normal average.
South-West Bengal	80.3	54.7	64.2	65.1	71.6	+1.6	0.61	0.22	-0.23	0.00	0.22	-0.23	1.20	262
North Bengal	87.6	54.9	65.2	63.9	73.0	+3.9	0.64	0.17	-0.19	0.03	0.01	-0.19	0.40	1.20
East Bengal	85.3	56.0	65.6	65.9	74.4	+0.7	0.75	1.07	-0.92	0.46	1.36	-0.87	0.54	0.80
Bihar	91.0	69.4	64.2	61.5	72.9	+3.5	0.81	0.16	-0.13	0.06	0.36	-0.30	0.19	1.75
Orissa	89.8	54.9	64.4	67.1	76.2	+1.3	0.71	1.26	-0.95	0.50	0.19	-1.30	0.23	0.20
Chota Nagpur	89.6	51.0	63.1	66.2	71.2	+2.0	NH	0.34	-0.64	0.00	0.00	-0.64	1.20	1.15
Assam	86.7	53.4	61.9	61.9	73.5	+0.7								

* Dakongan) not included.

METEOROLOGICAL OFFICE, BENGAL,
The 17th December 1895.

A. PEDLER,
Meteorological Reporter to the Govt. of Bengal.

Results of the Meteorological Observations taken at the Alipore Observatory from 8th to 14th December 1895.

Month.	Date.	Maximum in sun.	Number of hours of bright sunshine.	Mean pressure barometer at 52° Fahr.	TEMPERATURE.				HYGROMETRY.				WIND.		Miles recorded.	Halls.	WEATHER.
					Mean.	Maximum.	Range.	Minimum.	Mean wet bulb.	Vapour tension.	Dew point.	Humidity.	Prevailing direction.				
1895.				Inches.	°	°	°	°	°	Inches.	°	%				Inches.	
Dec.	8th	130.4	7.7	29.956	64.7	76.4	18.2	57.2	57.3	0.385	51.7	63	NNW and N by W	78	Nil		Partially cloudy.
"	9th	134.7	5.5	29.916	64.6	76.0	22.0	54.0	56.7	0.362	50.0	61	NNW and N by W	73	"		Partially cloudy.
"	10th	131.1	8.0	29.887	65.5	75.8	19.9	55.9	58.7	0.408	53.4	66	N and NNW	51	"		Partially cloudy.
"	11th	97.2	Nil	29.798	60.7	70.6	9.2	61.4	61.4	0.477	57.6	73	NNE, NNW and N by E	73	"		Cloudy, o
"	12th	133.9	7.4	29.809	60.3	78.6	16.3	62.3	64.8	0.550	61.6	77	NNW and NW	67	"		Partially cloudy, o
"	13th	130.3	8.8	29.933	66.8	78.0	19.8	58.2	60.6	0.448	55.8	70	NNW and NW	39	"		Chiefly clear, o.
"	14th	131.1	9.3	30.041	64.9	76.7	20.6	56.1	57.4	0.376	51.0	64	NNW and calm	38	"		Clear, o.

The mean pressure of the seven days	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Inches.
The average pressure of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	29.913
The total number of hours of bright sunshine	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Hours.
The maximum possible number of hours of sunshine	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	46.5
The mean temperature of the seven days	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	68.1
The average temperature of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	68.2
The extreme variation of temperature	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21.6
The maximum temperature	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	78.6
The highest velocity of the wind in one hour	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Miles.
The mean relative humidity	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8
The average relative humidity of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	68
The total fall of rain from 8th to 14th December 1895	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Inches.
The average fall of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil
The total fall from 1st January to 14th December 1895	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.03
The average fall of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	39.38
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	65.22

The mean pressure, temperature, &c., are deduced from the traces of the Barograph and Thermograph. The maximum and minimum temperatures are obtained from self-registering thermometers. All the thermometers are verified and the readings have been corrected to a standard constructed and verified at the Kew Observatory. They are exposed under a thatched shed open at the sides and are suspended four feet above the ground.

The barometer readings are corrected approximately to those of the standard Newman's No. 88, formerly at the Surveyor-General's Office.

The hygrometric elements are obtained from Tables III, IV, and V of the official tables computed in the Meteorological Office, and based on Regnault's modifications of August's formula.

The directions and the movement of the wind are taken from the trace of a Beckley's anemograph.

The mouth of the rain-gauge is one foot above the ground.

o, overcast; a, dew.

**SUMMARY OF THE METEOROLOGICAL AND RAINFALL OBSERVATIONS
TAKEN IN BENGAL FOR THE WEEK ENDING 8 A.M., SATURDAY,
THE 14TH OF DECEMBER 1885.**

The meteorology of the past week has been remarkable from the fact that a small cyclonic storm has formed in the Bay and has advanced over a curved path into South-East Bengal. No similar storm at this late season of the year is on record. Indeed, during the present century only ten storms have been known to form in the Bay during December, and no single storm has ever been known to form in the latter half of the month. All the storms hitherto recorded have also advanced in a more or less westerly direction towards the Coromandel coast, usually crossing the coast line to the south of Madras. The great majority of the storms have also been fierce cyclones and usually of rather large size. Hence the occurrence of a storm nearly in the middle of the month, and of small size but fierce, and which has advanced from the south-east of the Bay over a large part of the Bay area into Bengal is almost unique.

From the very commencement of the week conditions in the east and south-east of the Bay were somewhat abnormal. Pressure was in considerable defect over the whole of Bengal and over the Bay, the defect ranging up to the large amount of a tenth of an inch at some of the Burma stations. On the 9th pressure had again fallen over almost the whole area, the fall being largest in the east of the Bay, and pressure became in defect by amounts ranging up to 0.15" at Diamond Island. Winds also commenced to strengthen on this morning at the Burma stations, while skies were becoming rather heavily clouded all round the Bay and at some of the Bengal stations. It was therefore probable that disturbed equally and unsettled weather was commencing in the south-east of the Bay, though perhaps the observations might equally well have pointed to the existence of a storm in the south-east of the Bay to the south-west of Diamond Island, which was beginning to advance northwards up the Bay. On the 10th pressure was rising in Burma and falling elsewhere over the Bay and in Bengal, and the observations pointed to the fact that the area of disturbed, equally and unsettled weather was moving across the Bay in a north-westerly direction, though again no certain indications could be obtained from the observations at the coast stations as to whether a cyclonic storm existed within the disturbed area or not. On the 11th pressure was falling rapidly at the central stations on the west coast of the Bay, and a rather severe barometric depression was approaching the Ganjam coast, and it is clear that at this time a small but fierce and very definite cyclonic storm occupied the centre of the depression. At 8 A.M. of the 11th the centre of the small storm appeared to be some distance from the coast and about south-east of Gopalpur, and the storm had therefore probably moved in a north-westerly direction during the previous twenty-four hours with slow or moderate velocity.

Conditions during the next twenty-four hours showed an extraordinarily rapid change. The storm during the 11th underwent apparently a rapid increase in intensity, for the indications at the coast stations became much more pronounced and severe. At 2 P.M. on the 11th the storm centre had approached tolerably near to Gopalpore and was to the east south-east of that station and had therefore continued its north-westerly advance. The storm then ceased to advance towards the coast, and as frequently happens with storms which occur late in the year, or at the close of the south-west monsoon season, it rapidly recurved, and immediately commenced to advance with greatly increased velocity in a north-easterly direction. At 8 P.M. of the 11th the centre of the storm was to the south south-east of Saugor Island, and at 2 A.M. of the 12th it was some little distance to the south-west of Chittagong. The storm must therefore have advanced over roughly some 350 to 400 miles in the space of twelve hours from 2 P.M. of the 11th to 2 A.M. of the 12th, or at the rate of at least 30 miles an hour. This is a most exceptional speed for a fierce cyclonic storm occurring at this season of the year, if it is not indeed quite unique in its way.

The storm then continued in its north-easterly path, and at 5 A.M. of the 12th the centre was west-south-west of Chittagong and comparatively near to that station, and at this time a pressure of 29.535 inches only was reported at Chittagong, though the centre was still some distance away. Between 5 A.M. and 8 A.M. the centre of the storm had passed inland apparently between Chittagong and Noakhali, and at 8 A.M. it was well inland. The storm then commenced to break up in the hills to the north-east of Chittagong, or perhaps the storm may have travelled on into Sylhet and Cachar and then broken up in the hills.

The storm was apparently a very small one, but the exact size can only be ascertained when full observations have been received and worked out. It was certainly accompanied by very strong winds and particularly heavy sea in the Bay, and in its inland advance it gave heavy rain, Chittagong reporting 4.27 inches during the passage of the storm, and several stations in the Chittagong and Noakhali districts more than three inches, and again several stations in Backergunge, South Lushai Hills, etc., amounts of more than two inches of rain.

The storm gave heavily clouded skies, high humidity and generally low temperature for several days over a large part of the province of Bengal, and in some other districts beyond these immediately in the track of the storm a few light showers fell, but on the whole the influence of the storm was much less strongly felt than might have been expected, probably mainly because of the very small size of the area of strong winds.

After the storm had rapidly broken up, probably between the 12th and 13th, for on the morning of the 13th there was practically no trace of its existence, conditions rapidly reverted

to those normal for the season. An increase of pressure of about a third of an inch took place at some stations in South-East Bengal, and on the morning of the 13th the cyclonic circulation of winds disappeared and northerly winds began to reappear, and winds became lighter in force. Skies also began to clear, and on the 15th, or at the end of the week under review, very little trace of the existence of the severe storm remained, and weather was almost of normal north-east-monsoon character.

Pressure.—Has, however, been largely in defect during the week, the defect being governed by the track of the storm. The general average defect for the week has equalled about 0·08" or 0·09, but at Noakhali it has equalled 0·134", at Chittagong 0·128" and at Comilla 0·126".

Temperature.—Owing to the clouded skies during the week and the rainfall in certain districts, temperature has been usually low, and there has been an average defect for the period in the mean of the province of 1·2°.

The actual average temperatures registered in the province and their variation from the normal values are, however, best seen in the table below, where the average temperature data for nine selected stations in different districts of the province are given:—

Table showing the excess or defect of the actual mean temperature from the normal for the week ending Saturday, the 14th December 1895.

	Normal mean maximum temperature for the week ending 14th December.	Actual mean maximum temperature for the week ending 14th December 1895.	Variation of actual from the normal.	Normal mean minimum temperature for the week ending 14th December.	Actual mean minimum temperature for the week ending 14th December 1895.	Variation of actual from the normal.	Normal mean daily temperature for the week ending 14th December.	Actual mean daily temperature for the week ending 14th December 1895.	Variation of actual from the normal.
Cuttack	82·0	78·8	-3·2	58·7	55·1	-3·6	70·4	66·3	-4·1
Dalmeida	78·5	75·3	-3·2	57·5	54·4	-3·1	68·0	64·0	-4·0
Narayanganj	79·1	75·1	-4·0	56·6	53·3	-3·3	69·3	65·3	-4·0
Bardwan	78·3	75·6	-2·7	57·3	54·1	-3·2	67·7	64·3	-3·4
Patna	74·9	71·8	-3·1	53·3	50·3	-3·0	63·6	60·3	-3·3
Gaya	74·3	71·3	-3·0	51·0	48·9	-2·1	62·4	59·3	-3·1
Patna	76·8	73·8	-3·0	53·4	50·3	-3·1	63·6	60·3	-3·3
Purnea	71·5	68·9	-2·6	50·7	48·6	-2·1	61·3	58·3	-3·0
Risarahat	71·5	68·9	-2·6	50·7	48·6	-2·1	61·3	58·3	-3·0
Darjeeling	66·1	61·9	-4·2	37·6	34·2	-3·4	53·0	49·7	-3·3

Rainfall.—An average fall of about an inch and a third has been recorded over East Bengal, but elsewhere the falls have been of no practical importance, though showers have occurred in Khulna, Jessore, Outtack, &c., districts. In the division of East Bengal the largest average district falls have been Noakhali 3·66 inches, South Lushai Hills 3·31 inches, Chittagong 2·66 inches, Tippera 1·34 inches, and Backergunge 1·88 inches.

The following table gives the summary of the temperature and rainfall data of each of the six meteorological divisions of the province for the week ending Saturday, the 14th of December 1895:—

METEOROLOGICAL DIVISIONS.	TEMPERATURE.						RAINFALL.									
	Highest observed during week.	Lowest observed during week.	Average for week.			Average mean of week above or below normal mean of week.	Of week.			Rainy days.		Since 1st of month.		Since 15th October 1895.		
			Of highest of each day.	Of lowest of each day.			Normal average.	Variation.	Average number in week.	Normal average number in week.	Variation.	Average.	Normal average.	Variation.		
				Of mean for each day.												
South-West Bengal	81·3	49·8	75·4	65·8	60·1	-1·2	0·01	0·54	-0·03	0·02	0·10	-0·08	0·01	0·27	1·26	0·00
North Bengal	79·3	45·3	72·1	64·9	64·2	-0·8	NH	0·08	-0·04	0·00	0·12	-0·15	0·03	0·18	0·42	1·01
East Bengal	78·7	47·8	75·2	67·4	66·4	-0·9	1·20	0·04	+1·23	0·02	0·11	+0·01	1·23	0·31	1·20	0·00
Bihar	77·6	48·9	75·4	65·7	63·1	-2·3	NH	0·07	-0·07	0·00	0·14	-0·24	0·19	0·08	0·23	1·13
Orissa	81·8	51·0	77·9	67·9	67·9	-0·0	NH	0·18	-0·18	0·00	0·06	-0·26	NH	0·26	2·25	0·00
Chota Nagpur	79·1	48·9	75·0	65·7	65·8	-0·2	NH	0·09	-0·09	0·00	0·12	-0·18	0·03	0·12	1·05	1·17

* Dabhoiganj not included.

METEOROLOGICAL OFFICE, BENGAL,
The 17th December 1895.

A. FIEDLER,
Meteorological Reporter to the Govt. of Bengal.

Results of the Barometrical and Thermometrical Observations taken at the Meteorological Office, Chowringhee, from 8th to 14th December 1895.

JANUARY 1896.												
MONTH.	DATE.	Pressure at 10 A.M. corrected and reduced to 32° Fahr.	TEMPERATURE.					HYGROMETRY.			Rain fall, past 24 hours.	
			Daily mean.	Maximum.	Range.	Minimum.	Dry bulb at 10 A.M.	Wet bulb at 10 A.M.	Vapour tension at 10 A.M.	Dew point at 10 A.M.		Humidity at 10 A.M.
1895.		Inches.	"	"	"	"	"	"	Inches.	"	"	Inches.
December	8th	30.028	68.9	70.8	19.9	58.9	60.4	50.7	.388	51.8	64	Nil
"	9th	29.998	65.5	77.5	24.1	53.4	68.6	58.4	.368	49.6	50	Nil
"	10th	30.043	66.5	76.4	19.8	56.6	58.2	60.9	.398	51.6	60	Nil
"	11th	29.93	67.2	72.8	11.0	61.8	65.0	61.4	.401	63.4	77	Nil
"	12th	29.968	70.9	79.6	17.6	62.1	72.0	66.4	.375	62.9	78	Nil
"	13th	30.041	68.7	79.2	21.0	58.2	70.6	62.6	.450	66.8	62	Nil
"	14th	31.7	66.6	78.6	28.4	55.1	71.1	60.0	.372	60.8	42	Nil

The mean 10 A.M. pressure of the seven days ... 29.979
The mean temperature of the seven days ... 67.5
The extreme variation of temperature ... 28.2
The maximum temperature ... 79.6
The mean 10 A.M. relative humidity of the seven days ... 61
The total fall of rain from 8th to 14th December 1895 ... Nil
The daily mean temperatures are the crude means of maximum and minimum temperatures.

METEOROLOGICAL OFFICE, INDIA,
The 16th December 1895.

G. LITTLE,
For Meteorological Reporter to the Govt. of India.

CIRCULAR AND EASTERN CANALS.

Approximate return of traffic for the week ending Saturday, the 14th December 1895, as compared with the corresponding week of the previous year.

NATURE OF CARGO.	WEEK ENDING SATURDAY, THE 14TH DECEMBER 1895.			WEEK ENDING SATURDAY, THE 15TH DECEMBER 1894.		
	Number of boats.	Weight of cargo.	Tonnage.	Number of boats.	Weight of cargo.	Tonnage.
	No.	Mds.	Ra.	No.	Mds.	Ra.
Rice and paddy	636	62,000	936	1,116	67,625	971
Jute	282	1,22,450	2,097	875	1,67,686	2,647
Firewood	114	67,675	1,035	97	63,000	939
Other articles	653	1,40,725	2,128	901	2,39,967	3,766
Total	1,684	3,93,350	6,246	2,489	5,28,277	8,313

EASTERN BENGAL STATE RAILWAY.

(INCLUDING N. B., Dacca, K. D., AND ASSAM-BIHAR SECTIONS.)

Approximate Return of Traffic and Mileage for the week ended 7th December 1895, on 813 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (including ferry).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	180,930	1,03,810 0 0	9,00,210 0	2,20,300 0 0	10,806 0 0	2,33,590 0 0	50,800	44,140	74,940
Or per mile of railway ...	224	128 0 0	1,118 0	278 0 0	13 0 0	29 0 0	62	54	74
For previous 22 weeks of half-year ...	4,230,373	10,52,973 0 0	2,07,35,000 0	43,07,608 0 0	2,24,152 0 0	12,84,600 0 0	431,100	338,470	1,169,570
Total for 23 weeks ...	4,411,303	10,64,083 0 0	2,16,35,210 0	45,27,908 0 0	2,34,958 0 0	13,19,558 0 0	482,200	382,610	1,264,810
COMPARISON.									
Total for corresponding week of previous year ...	215,911	90,580 0 0	10,20,210 0	2,11,575 0 0	20,104 0 0	2,31,679 0 0	50,520	44,001	73,521
Or per mile of railway corresponding week of previous year ...	266	110 0 0	1,255 0	260 0 0	25 0 0	32 0 0	62	54	73
Total to corresponding date of previous year ...	4,113,385	10,45,135 0 0	2,14,90,611 0	43,31,023 0 0	2,39,001 0 0	12,16,359 0 0	472,500	375,374	1,247,874

* Audited up to 10th October 1895.
† Excluding steamer earnings.

BENGAL CENTRAL RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 7th December 1895, on 125 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	31,700	12,960 0 0	64,990 0	5,500 0 0	50 0 0	13,510 0 0	2,810	2,308	5,118
Or per mile of railway ...	254	104 0 0	520 0	44 0 0	0 0 0	108 0 0	23	19	42
For previous 22 weeks of half-year ...	707,180	2,40,680 0 0	1,94,407 0	1,80,405 0 0	4,505 0 0	4,35,305 0 0	62,580	64,755	127,335
Total for 23 weeks ...	738,880	2,53,640 0 0	2,01,1,067 0	1,85,905 0 0	4,555 0 0	4,40,360 0 0	65,390	67,063	132,453
COMPARISON.									
Total for corresponding week of previous year ...	30,380	11,930 0 0	51,100 0	4,140 0 0	120 0 0	12,150 0 0	2,810	2,174	4,984
Or per mile of railway corresponding week of previous year ...	246	95 0 0	409 0	33 0 0	1 0 0	97 0 0	23	18	41
Total to corresponding date of previous year ...	701,130	2,31,750 0 0	1,93,501 0	1,79,365 0 0	4,444 0 0	4,36,649 0 0	62,580	64,879	127,459

* Audited up to 10th October 1895.

DACCA STATE RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 7th December 1895, on 86 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	21,780	7,750 0 0	42,400 0	4,730 0 0	100 0 0	13,580 0 0	2,300	2,500	4,800
Or per mile of railway ...	253	89 0 0	490 0	55 0 0	1 0 0	156 0 0	27	29	56
For previous 22 weeks of half-year ...	503,076	1,52,507 0 0	8,00,775 0	10,834 0 0	4,353 0 0	15,187 0 0	26,407	26,352	52,759
Total for 23 weeks ...	524,856	1,60,257 0 0	8,43,175 0	10,884 0 0	4,453 0 0	15,337 0 0	28,707	28,854	57,561
COMPARISON.									
Total for corresponding week of previous year ...	20,877	6,775 0 0	38,570 0	4,336 0 0	200 0 0	13,301 0 0	2,300	2,443	4,743
Or per mile of railway corresponding week of previous year ...	243	79 0 0	448 0	50 0 0	2 0 0	154 0 0	27	28	55
Total to corresponding date of previous year ...	503,076	1,50,240 0 0	8,00,775 0	10,819 0 0	4,357 0 0	15,176 0 0	26,407	26,352	52,759

* Audited up to 10th October 1895.



SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, DECEMBER, 25, 1895.

OFFICIAL PAPERS.

Non-Subscribers to the GAZETTE may receive the SUPPLEMENT separately on payment of Six Rupees per annum if delivered in Calcutta, or Twelve Rupees if sent by Post.

CONTENTS.

	Page.		Page.
Report on the Winter Rice Crop of Bengal, 1895	3085	STATEMENT of Rainfall in Bengal for the week ending Saturday (8 a.m.), the 21st of December 1895	3098
Statement showing the nature of stores purchased in England and in India by the Civil Departments during the year 1894-95	3086	Results of the Barometrical and Thermometrical Observations taken at the Meteorological Office, Chowringhee, from 15th to 21st December 1895	3092
Weather and Crop Report for the week ending 23rd December 1895	3088	Results of the Meteorological Observations taken at the Alipore Observatory from 15th to 21st December 1895	3103
Prices-current (retail) of Food-grains, Fire-wood and Salt in the Head-quarters Station Bazaars of the Districts of Bengal on the 15th December 1895	3090	Weekly return of Traffic Receipts on Indian Railways	3104
Meteorological Report of the Province of Bengal for the week ending Saturday, the 21st of December 1895	3094		

REPORT ON THE WINTER RICE CROP OF BENGAL, 1895.

THE following is published for general information.

REV. DEPT., C. E. BUCKLAND,
The 20th December 1895. Secy. to the Govt. of Bengal.

DEPARTMENT OF LAND RECORDS AND AGRI- CULTURE, BENGAL.

Final report on the winter rice crop of Bengal, 1895.

1. *Explanatory.*—In the district returns appended to this note, the estimates given for Champaran in the preliminary forecast issued last October, have been reproduced in the absence of any later return from the Collector.

2. *Character of the season.*—The character of the season up to September last was described in the first forecast of the winter rice crop issued in October. Up to that time, the distribution of rainfall, though less favourable than that of the corresponding period of the previous year, was not considered so deficient as to affect the prospects of the winter rice crop materially. In the month of May, the rainfall was less than the normal in South-West Bengal, in parts of North Bengal, in South Bihar, Orissa and Chota Nagpur; but in the Rajshahi, Jalpaiguri, Darjeeling and Pabna districts of North Bengal, in East Bengal and in North Bihar, was above the normal.

In June, the rainfall was abnormal. In East and North Bengal, the fall was less than half the normal; in West and Central Bengal and in parts of Bihar, it was deficient; but Chota Nagpur generally received the normal amount of rain, and Orissa double the usual amount of rain.

In July, the rainfall was deficient in Central and South-West Bengal except Bankura, in South Bihar except Shahabad, in Orissa and in parts of Chota Nagpur. In Northern Bengal, North Bihar and the Bhagalpur Division, the rainfall in this month was above the normal.

In August, Bihar and Orissa received sufficient rain, but in South-West, East and North Bengal except Darjeeling and Jalpaiguri, and in Chota Nagpur, rain was deficient.

In September, the rainfall was below the normal in every district except Rangpur, Bogra, Saran, Champaran and Puri.

In October, it was also deficient except in Burdwan, Jessore, Khulna, Faridpur, Backergunge, Tippera, Chittagong, Cuttack, Manbhum and Singhbhum. Almost all the rain received in East Bengal in October fell during the first three days of the month and was due to a cyclonic storm.

In the first week of November, no rain fell in South-West Bengal and Chota Nagpur, and there were only a few light scattered showers in other parts of these Provinces. In the second week, showers fell in Darjeeling and over parts of East Bengal. In the other districts, there was no rainfall. In the last fortnight of November, the whole of these Provinces was practically rainless.

3. *Area cultivated.*—The total area in Bengal, cultivated with winter rice this year, appears from the estimates returned by District Officers to be 30,447,100 acres, against 31,416,100 acres cultivated in 1894. This gives a decrease of 3·08 per cent. in the cultivated area, which is due to want of rain at the time of sowing. The contraction of area is especially noticeable in the districts of the Burdwan and Presidency Divisions. It would seem, however, that the cultivated areas in Burdwan and Bankura, which show a decrease this year of 32·4 per cent. and 37·9 per cent. respectively, as compared with the corresponding figures of last year, must have been under-estimated.

Northern Bengal, taken as a whole, shows an increase of 6·5 per cent. in the area cultivated this year over last.

year. In Rangpur alone, the Collector shows an increase of $2\frac{1}{2}$ lakhs of acres, which is improbable; the estimate of area cultivated in 1894 was probably too low.

4. *Character of the crop.*—It will be seen, on reference to the district returns appended to this note, that, out of the 45 districts of these Provinces, only 2 districts (a) report crops above the average of 16 annas, 3 districts (b) report average or 16-anna crops, 20 districts (c) report crops varying from 12 to less than 16 annas, 15 districts (d) report crops from above 8 to less than 12 annas, and 5 districts (e) return an 8-anna or less than an 8-anna crop. The worst crop returned for any district as a whole is that of Burdwan, which is estimated

at 6 annas only. The worst crop returned for any subdivision is that of Jhenida in Jessore which is estimated at 3 annas only; the Kalna, Kushtia, Moherpur and Jamui subdivisions only return 4-anna crops.

A comparison of the present estimates of outturn with the estimates given in the preliminary forecast shows that 2 out of the 45 districts, viz., Birbhum and Midnapore report better crops, 14 equal crops, and 29 worse crops.

On the whole, therefore, the outturn will not be nearly as good as was anticipated by District Officers when they furnished their returns in September last. This is due to the early cessation of the rains. The absence of the *Hathia* or October rain has much injured the prospects of the rice crop in Bihar.

Floods did some damage in Jalpaiguri, Pabna, Dacca and Faridpur, and the crops were also injured to some extent in Dacca, Faridpur and Tippera by a cyclonic storm in the first week of October.

The arithmetical mean of the anna estimates of outturn returned by District Officers, reckoned with reference to areas, gives a 12·2 anna crop for these Provinces as a whole; but allowing for a tendency, on the part of District Officers to under-estimate the outturn, especially in a year of deficient rainfall, and comparing the rainfall returns of the last season and estimates of outturn of this year, with corresponding reports and estimates of previous years, the crop of this year may be expected to give nearly the same outturn as the crop of 1892, and may probably be safely estimated at 13 annas. In parts of South Bihar; in the Jamui subdivision of Monghyr and in parts of all the districts, except Birbhum, in the Burdwan and Presidency Divisions, some vigilance is called for on the part of the District Officers; but, considering the good harvest of last year, and the facilities for importation, which the districts enjoy, where the crops have been short this year, there need probably be no fear of serious distress.

- (a) Dinajpur and Tippera.
- (b) Rangpur, Pabna and Balasore.
- (c) Birbhum, Midnapore, Rajshahi, Jalpaiguri, Darjeeling, Dacca, Mymensingh, Faridpur, Backergunge, Noakhali, Chittagong, Saran, Champaran, Purnea, Malda, Cuttack, Angul and the Khondmals, Puri and Singhbhum.
- (d) Bankura, the 24 Parganas, Jessore, Khulna, Patna, Gaya, Shahabad, Muzaffarpur, Darbhanga, Bhagalpur, South Parganas, Hazaribagh, Lohardaga, Palaman and Manbhum.
- (e) Burdwan, Hooghly, Nadia, Murshidabad and Monghyr.

5. *Prices*.—Annexed will be found a statement showing the prices of common rice for the fortnights ending 31st October, 15th November and 30th November 1895, as compared with the prices in the corresponding fortnights of 1894, in the case of those districts, where the crop this year has been estimated at 8 annas or less than 8 annas. So far as prices are a criterion of impending distress, it will be seen that there is not much cause for anxiety at present. The fortnightly returns do not show much variation in the prices of other common food-grains.

6. *Gross outturn*.—Owing to the absence of reliable estimates of average outturn to the acre of winter rice, no attempt has been made to furnish estimates of outturn district by district. As in former years, the outturn of rice in cwts. has been obtained for the Province, as a whole, by multiplying the total area cultivated by 15 maunds, or by $15 \times 82\frac{1}{2}$ lbs., which has been assumed to be the average yield of cleaned rice to the acre, in the case of the winter rice crop, and then by reducing the outturn obtained by $\frac{1}{18}$ the which is the estimate in annas of the outturn for the year. The gross outturn of cleaned rice, thus obtained, amounts to 272,625,800 cwts., against 367,856,900 cwts. estimated to have been produced in 1894. It will be understood, that it is only claimed for this estimate of outturn, that it may be a very rough approximation to the truth.

N. N. BANERJEE,

*Assistant Director of Land Records
and Agriculture, Bengal.*

W. C. MACPHERSON,

*Director of Land Records
and Agriculture, Bengal.*

CALCUTTA,

The 10th December 1895.

APPENDIX I.
Final Report on the Winter Rice Crop of Bengal, 1895.

1	2	3	4	5	6	7	8	9	10	11
District.	Subdivision.	Total area of subdivision in acres.	Total area estimated to be under cultivation in acres.	Approximate normal area under winter rice in acres.	Approximate area under last year's winter rice in acres.	Estimated area under this year's winter rice in acres.	Taking 15 annas to represent the average output, how many annas reproduced last year?	Taking 15 annas to represent the average output, how many annas will represent this year's output?	Remarks by District Officers.	Remarks by the De- partment of Land Revenue and Agri- culture, Bengal.
Burdwan	Sadar	194,880	656,500	434,300	434,200	274,100	Annas 15	Annas 6	Burdwan, Rajshahi, and Jansajim have been benefited by equal water, and the test have improved by the rain in October last. Insufficient rainfall of the current year will cause a decrease in the output by eight annas. To the preliminary forecast, the average out-put was estimated at 15½ annas. But continued deficient rainfall affected some of the cultivated lands to the extent of two annas, hence the decrease in the present return. Hence the decrease in the present rainfall. The decrease in the yield is due to insufficient rainfall.	
	Kalna	276,480	854,000	128,000	128,000	90,000	15	4		
	Kesra	236,480	109,000	140,800	140,800	105,500	15	0		
	Raniganj	429,440	254,700	235,300	235,300	168,000	15	14		
	District Total	1,796,080	1,243,800	932,400	932,300	597,200	15½	6		
Bhutan	Sadar	709,120	904,800	413,000	413,000	381,500	13	12	The figures in column 9 in the preliminary forecast were incorrect as less land has been cultivated this year. The figures were entered by mistake and should have been the same or below that now given. There was not sufficient rain at the time of transplan-tation. Some of the high lands have been left uncultivated. The rain at the latter part of October which fell throughout the district has much benefited the crops, and the final estimated output has been increased to 12 annas at Sadar and 13 annas at Rampurhat and Colaba.	
	Rampurhat	412,800		241,000	241,000	150,000	14	13		
	District Total	1,121,920	900,000	654,000	654,000	531,500	13½	12½		

1	2	3	4	5	6	7	8	9	10	11
District.	Subdivision.	Total area of subdivisions in acres.	Total area estimated to be under cultivation in acres.	Approximate normal crop under water rice in acres.	Approximate area under last year's winter rice in acres.	Estimated area under this year's winter crop in acres.	Taking 10 annas to represent the average output, how many annas represented outturn last year?	Taking 10 annas to represent this year's outturn? many annas will represent the average output, how many annas will represent this year's outturn?	Remarks by District Officers.	Remarks by the Department of Land Records and Agriculture, Bengal.
Bachar.	Bachar	1,272,440	494,800	204,800	204,800	207,700	13	10	The deficiency in the rainfall affected the cultivation and outturn of the crop considerably everywhere specially in the Tumbur subdivision where a large area of rice-producing land depends entirely for its moisture on the rainfall of the year.	
	Tumbur	444,000	214,000	143,000	185,000	70,000	10	7		
	District Total	1,677,440	642,800	347,800	389,800	277,700	17	94		
Mudang.	Bachar	2,130,000	1,200,100	700,000	704,000	700,000	12	10	Since the submission of the first forecast some 10,000 acres were brought under cultivation in the Comal subdivision. Both the Bachar and Comal subdivisions the outturn has been a little better than anticipated before. In Tumbur and Chital and especially in the latter subdivision, the outturn will be far less than last year. The lands could not be brought under cultivation for want of rain, and where cultivated they were blighted. In the Bachar and Comal subdivisions and partly in Tumbur, the rain of September and October brightened the prospects to a certain extent. Had it not been for this rainfall, there would have been a total failure of crop in many places. The inadequacy of rainfall is the cause of the decrease in the outturn.	
	Tumbur	200,000	270,000	200,000	200,000	170,000	14	10		
	District Total	2,330,000	1,470,100	900,000	904,000	870,000	13	6		
Bachar.	Bachar	1,392,000	2,111,400	1,501,000	1,400,000	1,574,400	12	10		
	Tumbur	200,000	170,000	141,400	141,400	21,000	10	8		
	District Total	1,592,000	2,281,400	1,642,400	1,541,400	1,595,400	10	10		
Bachar.	Bachar	2,130,000	1,200,100	700,000	704,000	700,000	12	10		
	Tumbur	200,000	270,000	200,000	200,000	170,000	14	10		
	District Total	2,330,000	1,470,100	900,000	904,000	870,000	13	6		

[illegible]

Character.	Sub-division.	3	4	5	6	7	8	9	10	11
		Total area of sub-division in acres.	Total area estimated to be under cultivation in acres.	Approximate amount area under winter crop in acres.	Approximate area under last year's winter rice in acres.	Estimated area under this year's winter rice in acres.	Taking 16 annas to represent the average output, how many annas represented output last year?	Taking 16 annas to represent this year's output, how many annas will represent the average output, how many annas represented output last year?	Remarks by District Officers.	Remarks by the Department of Land Records and Agriculture, Bengal.
Chakras	Sub-division	1,076,359	222,450	222,000	222,000	222,000	17	17	<p>The decrease in this year's area is compared with the normal area in 1884-85, and is owing to deficient rainfall. The Sub-divisional Officer's estimate of decrease is 22,450 acres, instead of 28,450 shown in the preliminary forecast, for which he has given no explanation. The decrease in output is owing to the deficient and want of timely rainfall.</p>	<p>In the Census Report of 1881 the area of the district has been shown as 1,300,324 acres.</p>
	Barhata	64,443	12,554	12,500	12,500	12,500	17	17		
	Barhata	906,153	217,100	214,100	214,100	214,100	17	17		
Barhata	Area of boundary of the Sundarban in this district.	317,440							<p>The decrease in the area as well as in the output is due to deficiency of rain which stopped the progress of cultivation, especially on high lands.</p>	
	District Total	2,103,943	470,000	473,100	473,100	473,100	17	17		
Barhata	Sub-division	1,076,359	222,450	222,000	222,000	222,000	17	17	<p>The decrease in the area as well as in the output is due to deficiency of rain which stopped the progress of cultivation, especially on high lands.</p>	
	Barhata	64,443	12,554	12,500	12,500	12,500	17	17		
	Barhata	906,153	217,100	214,100	214,100	214,100	17	17		
Barhata	Area of boundary of the Sundarban in this district.	317,440							<p>The decrease in the area as well as in the output is due to deficiency of rain which stopped the progress of cultivation, especially on high lands.</p>	
	District Total	2,103,943	470,000	473,100	473,100	473,100	17	17		

Madagascar</
------------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-------

1	2	3	4	5	6	7	8	9	10	11
District.	Subdivision.	Total area of population in acres.	Total area estimated to be under cultivation in acres.	Approximate Normal area under winter rice in acres.	Approximate area under last year's winter rice in acres.	Estimated area under this year's winter rice in acres.	Taking 10 annas to represent the average output, how many annas represented output last year?	Taking 10 annas to represent the average output, how many annas will represent this year's output?	Remarks by District Officer.	Remarks by the Department of Land Revenue and Agriculture, Bengal.
Dacca.	Radar	810,540	405,100	243,000	243,100	243,500	Annas 10 11 12 13 14	Annas 10 11 12 13 14	The decrease in the output as compared with the previous year is due to (1) want of rainfall at the time of growing (2) sudden rise of the river, (3) cyclone of end October 1895, and (4) sudden fall of river in October.	
	Moulvibazar	519,900	259,950	155,970	156,000	156,000	10 11 12 13 14	10 11 12 13 14		
	Barisal	247,000	123,500	74,000	74,000	74,000	10 11 12 13 14	10 11 12 13 14		
	Narail	210,100	105,050	63,025	63,025	63,025	10 11 12 13 14	10 11 12 13 14		
	District Total	1,787,540	893,700	537,000	536,100	537,000	10 11 12 13 14	10 11 12 13 14		
Mymensingh.	Radar	1,151,500	575,750	345,450	345,450	345,450	10 11 12 13 14	10 11 12 13 14	The output will be less than that of last year owing to the want of rain during the latter part of October and first part of November.	
	Narail	800,000	400,000	240,000	240,000	240,000	10 11 12 13 14	10 11 12 13 14		
	Moulvibazar	475,100	237,550	142,525	142,525	142,525	10 11 12 13 14	10 11 12 13 14		
	Barisal	694,000	347,000	208,200	208,200	208,200	10 11 12 13 14	10 11 12 13 14		
	District Total	3,120,600	1,559,700	936,175	936,175	936,175	10 11 12 13 14	10 11 12 13 14		

Fardpur...	Sadar	520,000	385,200	435,000	550,000	520,000	520,000	14	18	The output this year is worse owing to (1) floods being lower and of less duration than in last year, (2) untimely and insufficient rainfall during the sowing season, (3) damage done by early floods to some low tracts in Buxar Kotwali and Chapur, and (4) storm on the roads and bridges, which delayed the crop of Buxar subdivision to the extent of four areas.
	Chandpur...	630,000	415,000	324,000	320,000	320,000	30	30		
	Godan...	573,200	305,400	187,000	187,000	127,000	16	16		
Bach...	Sadar	711,000	410,700	258,000	250,000	250,000	14	14	The prospects are very poor owing to deficient rainfall.	
	Patna...	497,800	320,000	224,000	224,000	224,000	16	16		
	Purnea...	442,800	320,700	236,800	236,800	236,800	14	14		
Tippera...	Bach...	593,000	256,100	120,000	160,000	160,000	10	10	The output is worse than that of last year owing to bad distribution of rainfall. Some districts, in which work was done by a cyclone, have been ruined. Since then there has been no little rain.	
	Sadar	730,000	547,800	380,000	330,000	330,000	16	16		
	Bach...	424,000	257,000	250,000	250,000	250,000	16	16		
District Total		2,335,280	1,385,200	878,800	870,000	870,000	10	10		
District Total		1,304,340	1,167,300	625,000	601,400	601,400	19	19		

1	2	3	4	5	6	7	8	9	10	11
District.	Subdivision.	Total area of subdivision in acres.	Total area estimated to be under cultivation in acres.	Approximate area under winter rice in acres.	Approximate area under late year's winter rice in acres.	Estimated area under this year's winter rice in acres.	Taking 10 annas to represent the average output, how many annas will represent this year's output?	Remarks by District Officer.	Remarks by the Department of Land Revenue and Agriculture, Bengal.	
Bankhal	Radar	728,720	640,000	400,000	400,000	428,200	10	On account of insufficient rain throughout the year, the output has fallen much below the average.		
	Penny	822,000	175,000	137,000	137,000	137,000	10			
	District Total	1,550,720	815,000	537,000	537,000	565,200	10			
Chakraborty	Radar	1,025,351	618,000	400,000	400,000	470,700	10	The decrease in the output is due to insufficient and want of timely rainfall this year.	From the Census Report of 1901, it appears that the area of the district is 1,640,000 acres.	
	Chakraborty	671,600	100,000	85,100	85,100	85,200	10			
	District Total	1,696,951	718,000	485,100	485,100	555,900	10			

[illegible]

1	2	3	4	5	6	7	8	9	10	11
District.	Subdivision.	Total area of subdivision in acres.	Total area estimated to be under cultivation in acres.	Approximate normal area under winter rice in acres.	Approximate area under last year's winter rice in acres.	Estimated area under this year's winter rice in acres.	Taking 16 annas to represent the average output, how many annas represented output last year?	Taking 16 annas to represent the average output, how many annas will represent this year's output?	Remarks by the District Officers.	Remarks by the Department of Land Records and Agriculture, Bengal.
Baran	Sadar	436,540	461,570	144,000	144,000	144,000	Annas.	Annas.	The returns will be worse than that of last year and the first estimate, owing to the absence of the Kofaga rain in October.	
	Sivan	230,540	400,000	170,000	164,300	180,000	12	12		
	Gopalganj	267,530	271,000	117,000	117,000	117,000	16	14		
	District Total	1,934,590	1,382,570	431,000	406,300	441,000	171	13		
Chomperna	Sadar	971,880	854,000	239,000	239,000	239,000	15	15	Returns not received. Figures of the previous year's output have been reproduced.
	Bethah	1,394,720	708,000	400,000	440,000	440,000	14	16		
	District Total	2,366,600	1,562,000	639,000	679,000	679,000	141	134		
Mettahur-pur.	Sadar	779,000	511,000	320,000	372,000	372,000	12	10	Owing to the want of rain towards the latter part of the rainy season, viz. in September and October, the crop on high lands has been almost entirely lost, whilst that on low lands has also suffered to a certain extent. And hence the return is less than normal as well as less than that of the last year.	
	Bajpur	605,500	230,000	130,000	130,000	130,000	11	9		
	Baramanji	600,000	600,000	200,000	200,000	200,000	15	13		
	District Total	1,984,500	1,440,000	700,000	702,000	702,000	13	104		

Durbhanga	Badar	784,049	684,076	374,000	231,304	481,300	18	15	The falline of rain in <i>Kadaga</i> <i>marking</i> and the entire absence of rain in October have caused considerable injury to the rice crop and reduced the estimated output shown in the preliminary forecast. I have enquired into <i>Bamattipur</i> figures locally and have altered the forecast.
	Bamattipur	486,000	884,500	601,700	600,000	650,000	24	10	
	Madhabani	905,509						10		12
Monghyr	District Total	2,134,400	1,859,100	1,194,300	1,011,300	1,636,300	152	114	Owing to scanty and untimely rain, the output is much less this year than that of the last year.
	Sadar	697,350	850,000	270,000	244,000	270,000	14	18	
	Jamni	1,019,350	555,500	584,300	361,000	504,000	16	16	
Bhagalpur	District Total	2,809,440	1,588,900	684,000	637,000	637,700	16	74	The poor output in column 9 is due to insufficient rainfall ending September and October 1901.
	Badar	557,750	454,000	342,000	240,000	250,000	18	12	
	Madhubani	732,600	584,000	527,000	527,000	517,000	18	12	
Farukh	District Total	2,704,640	2,081,000	1,394,200	1,406,200	1,398,800	174	114	Much damage has been caused to the crops on account of insufficient rainfall, hence this low output.
	Sadar	1,615,440	700,000	240,000	242,000	322,000	16	10	
	Alamia	689,640	580,000	320,000	244,000	350,000	18	12	
Durbhanga	District Total	3,114,680	1,739,900	640,000	642,000	642,000	164	15	

1	2	3	4	5	6	7	8	9	10	11
Description.	Subdivision.	Total area of subdivision in acres.	Total area estimated to be under cultivation in acres.	Approximate normal area under winter rice in acres.	Approximate area under last year's winter rice in acres.	Estimated area under this year's winter rice in acres.	Taking 16 annas to represent the average outturn, how many annas represented outturn last year?	Taking 16 annas to represent the average outturn, how many annas will represent this year's outturn?	Remarks by District Officers.	Remarks by the Department of Land Records and Agriculture, Bengal.
Mails ..	Whole district ..	1,216,400	611,200	600,000	563,000	508,000	Annas 16	Annas 14	This year the outturn is expected to be not more than 13 annas owing to the scanty rainfall at the time of sowing and after wards.	
Special Parganas	Dumka ..	914,500	432,500	181,800	181,800	181,800	18	12		
	Deogarh ..	810,500	180,100	60,100	60,100	60,100	18	12		
	Gudga ..	818,000	432,800	74,300	74,300	74,300	18	12		
	Jamtara ..	413,600	131,800	54,000	54,000	54,000	18	12		
	Patna ..	437,100	237,000	208,000	208,000	208,000	18	12		
	Unjua ..	673,000	255,200	243,000	243,000	243,000	18	12		
District Total ..		2,800,100	1,237,200	887,400	804,000	740,300	17	10		
Ordinary ..	Sadar ..	907,100	328,100	200,000	200,000	200,000	16	14		
	Jajpur ..	704,800	230,700	230,700	230,700	230,700	16	14		
	Kendrapara ..	613,800	410,500	337,700	337,700	337,700	16	14		
	Bhadrak ..	14,100	87,800	73,000	73,000	73,000	16	14		
	District Total ..	2,239,500	1,165,800	1,083,400	967,100	941,300	16	15		

1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	2999	3000	3001	3002	3003	3004	3005	3006	3007	3008	3009	3010	3011	3012	3013	3014	3015	3016	3017	3018	3019	3020	3021	3022	3023	3024	3025	3026	3027	3028	3029	3030	3031	3032	3033	3034	3035	3036	3037	3038	3039	3040	3041	3042	3043	3044	3045	3046	3047	3048	3049	3050	3051	3052	3053	3054	3055	3056	3057	3058	3059	3060	3061	3062	3063	3064	3065	3066	3067	3068	3069	3070	3071	3072	3073	3074	3075	3076	3077	3078	3079	3080	3081	3082	3083	3084	3085	3086	3087	3088	3089	3090	3091	3092	3093	3094	3095	3096	3097	3098	3099	3100	3101	3102	3103	3104	3105	3106	3107	3108	3109	3110	3111	3112	3113	3114	3115	3116	3117	3118	3119	3120	3121	3122	3123	3124	3125	3126	3127	3128	3129	3130	3131	3132	3133	3134	3135	3136	3137	3138	3139	3140	3141	3142	3143	3144	3145	3146	3147	3148	3149	3150	3151	3152	3153	3154	3155	3156	3157	3158	3159	3160	3161	3162	3163	3164	3165	3166	3167	3168	3169	3170	3171	3172	3173	3174	3175	3176	3177	3178	3179	3180	3181	3182	3183	3184	3185	3186	3187	3188	3189	3190	3191	3192	3193	3194	3195	3196	3197	3198	3199	3200	3201	3202	3203	3204	3205	3206	3207	3208	3209	3210	3211	3212	3213	3214	3215	3216	3217	3218	3219	3220	3221	3222	3223	3224	3225	3226	3227	3228	3229	3230	3231	3232	3233	3234	3235	3236	3237	3238	3239	3240	3241	3242	3243	3244	3245	3246	3247	3248	3249	3250	3251	3252	3253	3254	3255	3256	3257	3258	3259	3260	3261	3262	3263	3264	3265	3266	3267	3268	3269	3270	3271	3272	3273	3274	3275	3276	3277	3278	3279	3280	3281	3282	3283	3284	328
------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	-----

1	2	3	4	5	6	7	8	9	10	11
District.	Subdivision.	Total area of subdivisions in acres.	Total area estimated to be under cultivation in acres.	Approximate normal area under winter rice in acres.	Approximate area under late year's winter rice in acres.	Estimated area under this year's winter rice in acres.	Taking 16 annas to represent the average output, how many annas represented output last year?	Taking 16 annas to represent the average output, how many annas will represent this year's output?	Remarks by District Officers.	Remarks by the Department of Land Revenue and Agriculture, Bengal.
Lohardaga	Whole district	4,500,000	2,655,300	1,401,700	1,491,700	1,401,700	Annas 18	Annas 19	The decrease in the output is due to the insufficient rainfall in the latter part of the season.	
Palamu	Whole district	8,139,200	780,000	320,000	308,800	308,800	18 to 20	19	The output has been seriously affected for want of rain.	
Mandla	Under Colindapur	2,140,100 812,200	754,900 171,500	254,304 114,500	254,500 114,500	254,300 114,500	18	19	The decrease in output is due to insufficient rainfall from the beginning of the transplanting season.	
	District Total	2,654,000	900,500	676,000	664,000	664,500	18	19		
Shahdol	Whole district	2,401,900	1,135,100	835,300	800,300	800,300	16	14		
	Total for all Bengal	94,211,400	56,042,000	32,685,000	31,410,100	30,447,100	17	13		* Estimated by the Department of Land Revenue and Agriculture.

N.B. - Twenty annas represent a bumper crop, 16 annas an average crop, 12 annas three-fourths of an average crop, and so on.

APPENDIX II.
Abstract statement of estimated acreage and outturn of the Winter Rice Crop, 1895.

PROVINCE.	ACREAGE.						OUTTURN IN CWT.						Remarks by the Department of Land Records and Agriculture, Bengal.
	(1) Current year's crop.	(2) Of previous year's crop.	Normal.	Percentage by which column 2 exceeds (+) or falls short of column 1.		Estimated Yield of current year, &c., of area in column 2.	Yield of area in column 2 at full standard rate.	Yield of previous year, &c., of area in column 2.	Normal.	Percentage by which column 7 exceeds (+) or falls short of (—) outturn in			
				Column 2.	Column 3.					Column 8.	Column 9.	Column 10.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Bengal	90,447,100	91,416,100	32,052,600	—3.68	—0.30	272,625,500	352,439,400	307,450,000	350,072,000	—18.75	—25.59	—25.10	

APPENDIX III.

Statement of rainfall from May to 16th November 1895.

[illegible]

[illegible]

APPENDIX IV.

Statement showing prices of common rice in districts where the winter rice crop of 1895 has been estimated by district officers at 8 annas or below 8 annas.

DISTRIBUT.	Fortnight ending 31st October		Fortnight ending 28th November		Fortnight ending 30th November	
	1894.	1895.	1894.	1895.	1894.	1895.
	2	3*	4	5	6	7
	2. CR.	2. CR.	2. CR.	2. CR.	2. CR.	2. CR.
Burdwan	16 14	15 12	14 0	13 0	70 8	10 0
Hooghly	11 8	10 13	12 0	12 14	71 8	13 3
Medinipur	12 7	10 7	12 10	12 3	72 10	15 6
Murshidabad	14 0	13 0	14 0	15 0	14 0	16 0
Baranagar	13 0	15 0	12 10	15 3	14 0	16 0
Margutta					15 0	

**STATEMENT SHOWING THE NATURE OF STORES PURCHASED
IN ENGLAND AND IN INDIA BY THE CIVIL DEPARTMENTS
DURING THE YEAR 1894-95.**

GENERAL DEPARTMENT—MISCELLANEOUS.

Calcutta, the 24th December 1895.

RESOLUTION—No. 4481.

Read—

The debate on the Provincial Service Budget for 1895-96, held in the Lieutenant-Governor's Council, on Saturday, the 30th March 1895, especially the remarks of the Hon'ble J. G. Womack on the subject of the purchase of stores in this Country and the late Lieutenant-Governor's reply.

Read also—

Letter from the Government of Bengal, General Department, No. 3062, dated the 12th September 1895, submitting to the Government of India, in the Finance and Commerce Department, the statement of expenditure on stores in the Civil Departments of this Presidency for the year 1894-95.

In his speech at the meeting of the Bengal Council on the 30th March 1895, referred to in the preamble, the late Lieutenant-Governor proposed to take steps to have a return prepared annually and laid before the Council to show the nature of the stores purchased in England and in India.

2. In fulfilment of the above promise, a Resolution was published, No. 4085A., dated 23rd July 1895, showing the cost of stores purchased in England by the Public Works Department of this Government, and the following statement which has been prepared in the General Department, shows the expenditure incurred in the Civil Departments during the year 1894-95 in the purchase of (1) stores manufactured in Europe and obtained through the Secretary of State for India; (2) stores manufactured in Europe, but purchased in India; and (3) stores manufactured in India and substituted for stores formerly imported through the India Office, London. In column 2 of the statement, articles on which more than Rs. 1,000 have been spent have been shown separately, all other items being grouped together under the head "Miscellaneous articles." The Superintendent of Stamps and Stationery alone takes any large quantity of goods from England, the value of the articles obtained by all other departments through the Secretary of State amounting to only Rs. 1,00,322. The Stationery Office is fully alive to the advantages of obtaining everything that is possible in this Country, as is shown by the large amount of goods now purchased here which were formerly imported through the India Office, London.

Statement showing the Expenditure on Stores incurred in the Civil Departments during 1894-95.

Department and description or class of stores.	Purchased through the Secretary of State for India.	European manufactured goods purchased in India by special permission.	Goods manufactured in India, and substituted for goods manufactured in Europe.
1	2	3	4
<i>Jail Department.</i>	Rs.	Rs.	Rs.
T. R. cambrio ...	7,387	.....	.....
Factory stores ...	9,967	.....	.....
Miscellaneous articles ...	1,603	.....	.....
Total ...	18,957	48,412	4,214

Department and description or class of stores.	Purchased through the Secretary of State for India.	European manufactured goods purchased in India by special permission.	Goods manufactured in India, and substituted for goods manufactured in Europe.
1	2	3	4
<i>Opium Department.</i>	Rs.	Rs.	Rs.
Coal pitch ...	4,892	.....	.....
Earthenware and porcelain ...	2,572	.....	.....
Hardware and cutlery ...	3,633	.....	.....
Iron ...	5,509	.....	.....
Tin ...	1,243	.....	.....
Steam-pumping engine ...	2,368	.....	.....
Miscellaneous articles ...	20,629	.....	.....
Total ...	40,746	840	4,130
<i>Education Department.</i> ...	143	Nil	6,205
<i>Stamps and Stationery.</i>			
Paper, drawing ...	40,013	.....	.....
" writing ...	34,089	.....	.....
" binding ...	1,424	.....	.....
" copying-press ...	6,726	.....	.....
" water-marked, for bills of exchange.	2,022	.....	.....
Parchment ...	21,256	.....	.....
Envelopes ...	5,106	.....	.....
Drawing materials ...	95,026	.....	.....
Water colours ...	9,205	.....	.....
Writing materials ...	67,663	.....	.....
Binding ..	89,122	.....	.....
Blank books ...	5,056	.....	.....
Press copying materials ...	11,072	.....	.....
Miscellaneous articles ...	42,474	.....	.....
Total ...	4,31,154	4,752	16,38,595
<i>District Officers</i> ...	Nil	1,709	Nil.
<i>Cinchona Factory.</i>			
Caustic soda ...	7,793	.....	.....
Galvanized iron ...	1,853	.....	.....
Tin plates ...	2,104	.....	.....
Miscellaneous articles ...	933	.....	.....
Total ...	12,683	5,202	Nil.
<i>Government Printing Department.</i>			
Types ...	3,556	.....	.....
Printing ink ...	3,077	.....	.....
Leather ...	1,568	.....	.....
Iron, Swedish ...	2,250	.....	.....
Envelope-cutting machine ...	1,027	.....	.....
Miscellaneous articles ...	10,674	.....	.....
Total ...	21,952	5,862	37,443

Department and description or class of stores.	Purchased through the Secretary of State for India.	European manufactured goods purchased in India by special permission.	Goods manufactured in India, and substituted for goods manufactured in Europe.
1	2	3	4
<i>Botanical Gardens.</i>	Rs.	Rs.	Rs.
Hardware and cutlery ...	3,100	.....	.....
Miscellaneous articles ...	1,745	.....	.....
Total ...	4,845	2,314	Nil
<i>Chemical Examiner</i> ...	996	Nil	490
GRAND TOTAL ...	5,31,476	60,091	16,91,077

ORDER.—Ordered that a copy of this Resolution be published in the Supplement to the next issue of the *Calcutta Gazette*.

Ordered, also, that a copy of this Resolution be forwarded to the Hon'ble J. G. Womack, and to the Bengal Chamber of Commerce, the Calcutta Trades' Association, and the Bengal National Chamber of Commerce.

By order of the Lieutenant-Governor of Bengal,

C. E. BUCKLAND,

Secretary to the Govt. of Bengal.

WEATHER AND CROP REPORT.

For the week ending the 23rd December, 1895.

Burdwan.—Rainfall nil. Weather fair. Harvesting of *aman* crop continues. Sowing of *rabi* crops nearly finished. Prospect of sugarcane favourable. Fodder and water sufficient. Condition of cattle good. Common rice sells at an average price of 16 seers a rupee.

Midnapore.—Rainfall nil. Weather cool. Prospect of indigo, linseed and sugarcane good. Harvesting of paddy continues. Prospect of *rabi* is not good owing to want of moisture. Common rice selling at—

					Srs.
Sadar	...	...	...	...	18
Contai	...	...	...	...	18 to 20
Tamluk	...	...	...	...	15

} per rupee.

24-Parganas.—Rainfall nil. Weather bright and cool. Harvesting of *aman* continues. *Rabi* crops progressing fairly. Fodder sufficient, but water insufficient. No cattle-disease. Rice sells at—

					Srs. c.
Sadar	...	...	...	...	12 to 14 0
Barasat	...	...	...	...	15 0
Basirhat	...	...	...	...	14 3
Diamond Harbour	...	...	...	...	16 0

} per rupee.

Murshidabad.—No rain. Weather seasonable. Harvesting of *aman* and *kalai* going on. Estimated outturn of *aman* 8 annas. *Rabi* crops suffering from want of rain. State of indigo and mulberry good. Fodder and water sufficient. Common rice sells at 14 seers a rupee.

Khulna.—Rainfall nil. Weather cold. Harvesting of *aman* going on. Standing crops doing well. Fodder sufficient, but water deficient in some places. Some cases of cattle-disease in thana Dumuria. Prices of common rice:—

	Srs.	c.	
Sadar	16 to 21 0
Bagerhat	17 8
Satkhira	14 8

per rupee.

Dinajpur.—No rain. Weather cold. *Rabi* crops are not good. Rice selling from 13 to 16 seers a rupee. No cattle-disease, nor any complaint for fodder and drinking water.

Rangpur.—No rain. Harvesting of *aman* going on. Rain wanted for standing crops. Prospects generally good. Common rice selling at 14 seers per rupee. Fodder sufficient.

Pabna.—Rainfall nil. *Aman* rice being reaped. All *rabi* crops promise well. Fodder sufficient.

Dacca.—Rainfall nil. Weather seasonable. Harvesting of *aman* going on; prospects fair. *Rabi* crops thriving. No cattle-disease. Fodder available. Price of common rice 15 seers per rupee.

Chittagong.—No rain. Weather seasonable. Harvesting of *aman* in progress; a poor outturn expected. *Rabi* sowings continue. Water and fodder sufficient. Rice sells at 15 seers per rupee.

Patna.—No rain. Harvesting of paddy progressing. *Rabi* crops doing well. Poppy in Bihar is better than last year, but not good. Condition of cattle good. Fodder and water sufficient. Common rice sells from 18 to 21 seers per rupee.

Gaya.—No rain. Paddy harvest and sugarcane pressing in progress. *Rabi* not doing well for want of moisture. Price of common rice at Sadar 17 seers per rupee against an average of 16½ seers.

Champanan.—No rain. Weather cold. Harvesting of *aghani* and weeding of *rabi* and poppy continue. Prospects generally good. Common rice selling from 15 to 22 seers per rupee. Fodder and water for cattle sufficient.

Darbhanga.—No rain. Harvesting of paddy not yet completed. Absence of rain somewhat retarded the growth of *rabi* crops. Later poppy sowings doing well, but rain urgently wanted. Fodder sufficient. Common rice selling at 16½ seers per rupee.

Bhagalpur.—No rain. Weather very cold. Harvesting of winter paddy still going on; estimated outturn 12 annas. Prospect of *rabi* not favourable in Madhipura and Sapaal subdivisions, but good in Sadar and Banka subdivisions. No cattle-disease. Fodder reported scarce in Banka. Common rice sells at 18 seers 15 chitaka per rupee.

Purnea.—No rain. Harvesting of *aghani* and sowing of *rabi* going on. Pressing of sugarcane in progress. No cattle-disease. Fodder and water sufficient. Common rice sells from 18 to 24 seers a rupee.

Cuttack.—Rainfall nil. Weather seasonable. Harvesting of *sarad* in progress. Prospect of *mung* good. Condition of cattle good. Fodder sufficient. Common rice sells at—

	Srs.	c.	
Cuttack	23 10
Jajpur	31 8
Kendrapara	30 8
Banki	28 11

per rupee.

Hazaribagh.—No rain. Weather seasonable. Harvesting of *aman* nearly completed; average outturn 8 to 12 annas. Rain wanted for *rabi* crops. Prospect of poppy good. Fodder and water sufficient. Common rice selling at 13 to 16 seers per rupee.

General Summary.—There was no rain during the week. The harvesting of winter rice is proceeding; the outturn, except in Northern and parts of Eastern Bengal and in Orissa, will be below the average, and is estimated to be a thirteen-anna crop for the whole province. Prospects of the *rabi* crops continue generally good, but in parts of Central Bengal and Bihar and in Hazaribagh there is still lack of moisture. Poppy is doing well, but requires rain in Darbhanga. Indigo and sugarcane are good crops; the latter is being harvested in some districts. No cattle-disease except in one thana of Khulna. The price of common rice continues generally stationary.

By order of the Lieutenant-Governor of Bengal,

REVENUE DEPARTMENT,
The 24th December, 1895.

C. E. BUCKLAND,
Secretary to the Government of Bengal.

KARONTOR KARUN, ITALIAN MILLET. (<i>Seta ris italica</i> .)			GRAM, CHANA, CHHOLA, KADALAY, OR SUNAGA. (<i>Cicer arietinum</i> .)		
Present return.	Next preceding re- turn.	Corresponding re- turn of last year.	Present return.	Next preceding re- turn.	Corresponding re- turn of last year.

S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.
...	16	8	16	14	16	0
...	16	0	16	0	16	12
...	14	0	14	4	16	0
...	14	8	14	8	16	0
...	16	0	16	0	14	4
...	14	8	13	0	...	...

...	...	...	...	14	0	13	0	16	0
12	0	11	0	10	0	15	8	14	14
...	...	...	...	17	13	17	13	18	4
...	...	...	...	19	0	19	0	16	0
...	...	...	...	16	0	16	0	16	0
...	...	...	...	11	8	11	8	11	8

...	...	...	...	17	4	19	8	13	8
...	...	...	...	12	4	12	4	13	4
...	...	...	...	14	8	14	0	15	0
...	...	...	...	12	0	12	0	11	0
...	...	...	...	14	0	16	0	16	0
...	...	...	...	15	0	13	8	13	0
...	...	...	...	16	0	15	0	13	8

...	...	...	...	13	0	13	8	14	0
...	...	...	...	12	8	12	8	12	8
...	...	...	...	14	0	16	0	16	0
...	...	...	...	14	0	14	0	11	12

Head-quarters Station Bazaar of the Districts of Bengal on the 15th December 1895.

[illegible]

K. In the subdivisions the retail prices of salt per rupee are:—Bagerhat 8 seers and Satkhira 11½ seers.

K. In the subdivisions the retail price of salt per rupee are :—Jagerhat 8 seers and Satkhira 10 seers.
L. In the subdivisions the retail price of salt per rupee are :—Nator 9 seers and Naugon 24 seers.

6 In the subdivisions the retail prices of salt per rased are :—Nate
34 In the Bhoir lower the retail price of salt is 8 seers per rased.

At Singuri the retail price of salt is 3 annas per rupee.

At present, the retail price of salt is 12 annas per ruppe.

Q Is the market in the interior of the district the total price

At present the retail prices of salt in various parts are :—Bhokhari 2 seers, Jamalpur 10 seers, Kagramari 10 seers, and Netrokona

10 acres.

B In the subdivisions the retail prices of salt per rupee are :—Madaripur 11 seers and Goulundo 11 seers.

T In the subdivisions the retail prices of salt per paper are :—

SEEDS OF SO TOLANE.

BABA OR COMED. (<i>Pennisetum typhaleum</i> .)			MARUA OR RAOL. (<i>Eriosema Coccinea</i> .)		
Present return.	Next preceding re- turn.	Corresponding re- turn of last year.	Present return.	Next preceding re- turn.	Corresponding re- turn of last year.

H. Ch. S. Ch. S. Ch. S. Ch. S. Ch.

...
...
...

...	...	...	30 0	30 0	30 0
...	...	...	25 4	25 6	22 8
...
...	...	...	25 0	26 0	22 0
...	...	...	32 0	30 8	...
...
...	...	...	29 8	28	27 0

...	...	...	...	...	20 0
...
...
...
18 0	20 0	...	...	...	...
...

...
...
...

...	...	...	24 0	25 0	24 0
...	...	...	30 0	30 0	28 0
...	...	...	20 4	30	...
20 0	...	20 0	...	...	...
...

KARONI OR KARUN, ITALIAN MILLET. (<i>Sesuvia italica</i> .)			GRAM, OHANA, CHHOLA, KADALAT OR SURAGA. (<i>Cleome aristatum</i> .)		
Present return.	Next preceding re- turn.	Corresponding re- turn of last year.	Present return.	Next preceding re- turn.	Corresponding re- turn of last year.
S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.
...	...	...	18 0	13 0	12 8
...	...	...	12 0	12 0	11 8
...	...	...	12 4	12 8	11 12
25 0	25 0	20 0	20 8	21 0	19 0
16 4	16 8	12 8	18 8	19 0	18 8
...	...	...	19 0 to 20 0	19 0 to 20 0	16 0
16 0	16 0	14 0	19 0	19 0	18 0
...	...	...	20 8	20 8	17 0
...	...	...	16 0	16 0	14 0
17 8	...	...	18 0	19 12	18 6
19 0	12 4	16 0	18 0	18 0	17 8
...	...	...	18 15	19 8	17 11
...	...	...	16 0	16 0	16 0
18 0	18 0	18 0	15 0	15 0	14 0
...	...	...	14 0	16 0	14 0
...	...	...	Bird or kalai, Chhola		
...	...	...	27 1	17 1	14 7
...	...	...	18 0	18 0	18 0
...	...	...	Bird or kalai,		
...	...	...	16 0	16 0	18 0
...	...	...	14 7	14 7	13 2
...	...	...	16 0	15 8	15 0
...	...	...	15 0 to 16 0	12 0 to 13 0	12 0 to 13 0
...	...	...	15 12	14 10	13 8
...	...	...	14 4	14 0	15 0 to 13 0
...	...	...	12 0	12 0	12 0

PRICES-CURRENT (wholesale) of Food-grains, Firewood, and Salt

Number.	MARKS.	WHEAT.			BARLEY.			RICE, BEST SORT.			RICE COMMON.		
		Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.
		R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.
1	Calcutta ...	3 5 0	3 4 0	3 1 0	2 7 0	2 8 0	2 8 0	5 2 0	5 2 0	5 0 0	3 4 0	5 5 0	3 12 0
2	Straiganj ...	2 2 0	2 4 0	3 2 0	...	...	...	4 2 0	4 1 0	5 0 0	3 0 0	2 14 0	3 0 0
3	Dacca ...	3 0 0	3 0 0	2 14 0	...	...	...	3 6 0	3 7 0	3 10 0	2 9 0	2 11 0	2 8 0
4	Narayanganj ...	...	...	...	...	...	...	3 10 0	3 8 0	3 10 0	2 14 0	2 12 0	2 8 0
5	Chittagong ...	3 14 0	3 12 0	3 10 0	...	...	...	3 10 0	3 0 0	2 12 0	2 4 0	2 8 0	2 4 0
6	Patna ...	2 10 0	Red wheat.	2 7 0	1 9 0	1 9 0	1 15 0	3 4 0	3 4 0	3 14 0	2 0 0	2 1 6	2 3 0
		2 13 0	White wheat.	2 10 0									
7	Cuttack ...	3 6 0	2 6 0	2 12 0	...	...	...	3 0 0	3 0 0	3 10 0	1 11 0	1 11 0	2 2 0
8	Balasore ...	2 8 0	2 8 0	2 8 0	4 0 0	4 0 0	4 12 0	3 8 0	2 8 0	3 10 0	1 14 0	1 14 0	2 2 0
9	Puri ...	3 10 0	3 10 0	3 1 0	...	...	...	2 8 0	2 12 0	3 10 0	1 0 0	1 10 0	2 0 0

CALCUTTA,
The 24th December 1895:

OF 40 SHEERS

NABUA OR RAOL (Eleusine Coracana.)			KARONT OR KARUN, ITALIAN MILLET. (Sataria italica.)		
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.
R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.
...	8 10	03 10	04 00
...
...
...
...
...
1 5 01	5 01	4 6	1 9	01 9 0	14 0
...
...
...

8094L

in the undermentioned *Marts* of Bengal on the 15th December 1895.

GRAM, CHANA, CHHOLA KADAIAT OR SENAGA. (<i>Cicer Arctostemma.</i>)			INDIAN-CORN OR MAIZE. (<i>Zea Mays.</i>)			ARHAR OR TURU, CADJAN PEA. (<i>Cajanus indicus.</i>)			FIRWOOD.			SALT.			MARTS.
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	
R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	
2 10 0	2 11 6	2 9 0	2 0 0	2 8 0	2 0 0	2 12 0	2 12 0	2 8 0	0 7 0	0 7 0	0 0 0	3 2 0	3 8 0	3 5 0	Calcutta.
2 8 0	2 6 0	3 4 0	...	...	...	...	...	...	0 8 0	0 6 0	0 6 0	3 4 0	3 6 0	3 10 0	Sirajganj.
2 10 0	2 12 0	2 12 0	...	...	...	2 0 0	2 0 0	3 6 0	0 4 0	0 4 0	0 5 0	3 10 0	3 10 0	4 0 0	Dacca.
2 12 0	2 14 0	2 14 0	...	...	...	2 0 0	3 4 0	3 4 0	0 6 0	0 0 0	0 6 0	3 8 0	3 8 0	3 0 0	Narayanganj.
3 2 0	3 0 0	3 2 0	...	...	...	...	...	...	0 8 0	0 8 0	0 4 0	3 8 0	3 8 0	3 10 0	Chittagong.
1 14 6	1 14 0	2 1 0	1 6 6	1 8 0	1 10 0	1 14 0	1 15 0	2 5 0	0 5 0	0 5 0	0 5 0	3 8 2	3 6 9	3 8 0	Fatna.
Diri or kalai. 2 2 0	2 2 0	2 12 0	...	...	...	2 2 0	2 2 0	2 6 0	0 8 0	0 8 0	0 8 0	3 7 0	3 7 0	3 8 0	Cuttack.
Chhola. 3 0 0	3 0 0	2 14 0	...	...	...	4 0 0	4 0 0	3 6 0	...	...	...	3 8 0	3 8 0	3 8 0	Balamore.
Diri or kalai. 2 8 0	2 8 0	...	...	...	...	2 10 0	2 10 0	2 10 0	0 8 0	0 8 0	0 8 0	3 2 0	3 4 0	3 6 0	Parl.
2 10 0	2 10 0	2 13 0	...	...	...	2 10 0	2 10 0	2 10 0	0 8 0	0 8 0	0 8 0	3 2 0	3 4 0	3 6 0	

O. E. BUCKLAND,
Secretary to the Govt. of Bengal.

The following table gives the summary of the temperature and rainfall data of each of the six meteorological divisions of the province for the week ending Saturday, the 21st of December 1895 :—

Meteorological Divisions.	TEMPERATURE.							RAINFALL.									
	Highest observed during week.	Lowest observed during week.	Averages for week.			Average range of week above or below normal mean of week.	Of week.			Rainy days.		Since 1st of month.	Since 15th October 1895.				
			Of highest of each day.	Of lowest of each day.	Of mean for each day.		Average.	Normal average.	Variation.	Average number in week.	Normal average number in week.		Variation.	Average.	Normal average.	Average.	Normal range.
South-West Bengal	80.8	44.2	76.9	51.6	64.3	-1.7	Nil	8.08	-0.08	0.00	0.18	-0.18	0.01	0.28	1.28	2.12	
North Bengal	77.6	46.0	76.4	40.3	68.9	-1.1	Nil	8.08	-0.08	0.00	0.00	-0.00	0.03	0.11	0.05	1.56	
East Bengal	78.7	46.9	76.7	53.3	65.0	-1.3	Nil	8.08	-0.08	0.00	0.00	-0.00	1.33	0.34	1.00	2.00	
Bihar	76.5	61.3	76.2	60.7	60.5	-2.0	Nil	8.04	-0.04	0.00	0.00	-0.00	0.10	0.13	0.25	1.15	
Orissa	83.3	47.4	79.3	56.5	67.9	-1.7	Nil	8.13	-0.13	0.00	0.18	-0.18	Nil	0.66	2.08	4.03	
Chota Nagpur	78.0	44.0	76.0	51.0	61.3	-0.7	Nil	8.12	-0.12	0.00	0.00	-0.00	0.00	0.07	1.00	2.00	

* Dacca and J. not included.

METEOROLOGICAL OFFICE, BOMBAY,
The 24th December 1895.

A. PRINCE,
Meteorological Reporter to the Govt. of Bengal.

Results of the Barometrical and Thermometrical Observations taken at the Meteorological Office, Chowringhee, from 15th to 21st December 1895.

Logan, Calif., showing													
Month.	Date.	Pressure at 10 A.M. corrected and reduced to 32° Fahr.	TEMPERATURE.					HYGROMETRY.			Rainfall, past 24 hours.		
			Daily mean.	Maximum.	Range.	Minimum.	Dry bulb at 10 A.M.	Wet bulb at 10 A.M.	Vapour tension at 10 A.M.	Dew point at 10 A.M.		Humidity at 10 A.M.	
1895.		Inches.	"	"	"	"	"	"	Inches.	"	%	Inches.	
December	15th	30.113	65.5	78.2	25.4	52.3	70.6	59.5	.883	50.1	68	Nil	
"	16th	30.119	64.3	77.5	28.5	51.0	70.4	60.2	.885	51.0	62	Nil	
"	17th	30.160	67.9	78.8	21.9	56.9	69.6	59.7	.891	51.4	69	Nil	
"	18th	30.171	68.2	79.8	22.2	57.1	68.8	58.7	.892	50.0	62	Nil	
"	19th	30.176	65.0	76.6	23.1	53.4	67.6	58.7	.877	51.1	60	Nil	
"	20th	30.154	68.6	76.3	25.4	50.9	67.2	58.7	.883	51.6	68	Nil	
"	21st	30.114	63.0	76.6	27.1	49.4	67.1	56.7	.886	48.1	62	Nil	

The mean 10 A.M. pressure of the seven days ... 30.144
 The mean temperature of the seven days ... 64.4
 The extreme variation of temperature ... 29.9
 The maximum temperature ... 79.8

The mean 10 A.M. relative humidity of the seven days ... 68

The total fall of rain from 15th to 21st December 1895 ... Nil

The daily mean temperatures are the crude means of maximum and minimum temperatures.

METEOROLOGICAL OFFICE, INDIA,
The 23rd December 1895.

G. LITTLE,
For Meteorological Reporter to the Govt. of India.

Results of the Meteorological Observations taken at the Alipore Observatory from
15th to 21st December 1895.

Month.	Date.	Maximum in sun.	Number of hours of bright sunshine.	Mean pressure barometer at 28° Fahr.	TEMPERATURE.				HYGROMETRY.				WIND.		Rain.	WEATHER.
					Mean.	Maximum.	Range.	Minimum.	Mean wet bulb.	Vapour tension.	Dew point.	Humidity.	Prevailing direction.	Miles recorded.		
1895.				Inches.						Inches.		%			Inches.	
Dec.	15th	123.7	0.4	30.065	63.2	75.0	23.6	52.4	54.1	0.363	49.7	64	NNE and calm ...	23	Nil	Clear, ☀.
"	16th	122.2	0.3	30.054	62.8	76.6	25.6	50.7	54.4	0.375	51.0	66	NNE and calm ...	23	"	Clear, ☀.
"	17th	123.6	7.7	30.067	65.2	77.1	20.6	56.6	57.9	0.383	51.8	64	NE, NNE and calm.	53	"	Morning partially cloudy, day and night clear.
"	18th	130.2	6.0	30.066	66.1	77.6	21.6	56.6	57.7	0.370	50.6	60	NNE and calm ...	42	"	Morning partially cloudy, day and night clear, ☀.
"	19th	127.7	9.2	30.067	63.4	74.2	19.8	54.4	55.9	0.342	48.9	63	NNW, WNW and calm.	37	"	Clear, ☀.
"	20th	127.7	9.3	30.079	62.8	74.4	23.9	50.5	55.6	0.351	49.2	64	NNW and calm ...	39	"	Chiefly clear, ☀.
"	21st	129.5	9.4	30.069	61.6	75.3	26.7	49.6	54.0	0.319	46.6	58	NNW and calm ...	37	"	Chiefly clear, ☀.

The mean pressure of the seven days	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Inches.
The average pressure of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	30.032
The total number of hours of bright sunshine	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Hours.
The maximum possible number of hours of sunshine	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	61.1
The mean temperature of the seven days	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	63.6
The average temperature of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	67.4
The extreme variation of temperature	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	28.2
The maximum temperature	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	77.8
The highest velocity of the wind in one hour	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Miles.
The mean relative humidity	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
The average relative humidity of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	63
The total fall of rain from 15th to 21st December 1895	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Inches.
The average fall of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil
The total fall from 1st January to 21st December 1895	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.01
The average fall of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	39.38
The mean pressure, temperature, &c., are deduced from the traces of the Barograph and Thermograph, and from observations made at 6h., 10h., 16h. and 22h.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	65.23

The maximum and minimum temperatures are obtained from self-registering thermometers. All the thermometers are verified and the readings have been corrected to a standard constructed and verified at the Kew Observatory. They are exposed under a thatched shed open at the sides and are suspended four feet above the ground.

The barometer readings are corrected approximately to those of the standard Newman's No. 86, formerly at the Surveyor-General's Office.

The hygrometric elements are obtained from Tables III, IV, and V of the official tables computed in the Meteorological Office, and based on Regnault's modifications of August's formula.

The directions and the movement of the wind are taken from the trace of a Beckley's anemograph.

The mouth of the rain-gauge is one foot above the ground.

☁, dew; ☁, overcast.